

Tan Delawat

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Patent and Trademark Office

SEARCH REQUEST FORM

119976

Requestor's Name: Sakiba Qazi Serial Number: 09/720,940

Date: 4/21/04 Phone: 20622101 Art Unit: 1616

Inventor: Obchmann, R et al

Search Topic:

Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

*this application is a 371 of PCT/DE 97/01812
filed on 6/19/1997*

Please search for

- ① *Ch-11-19 for Ginkgo biloba extracts*
- ② *Ch 19-27 - method of preparing Ginkgo biloba extracts (see step c)*

Please note the term "ultra-filtration" or "ultrafiltrate"?

Prior art may not be using this term but filtration process may be very fine by using similar type of filter papers or filtration process?

*Please see attached sheet
Thank you*

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Date completed: 4/22/04
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Terminal time: _____
Elapsed time: 15 + 5
CPU time: _____
Total time: _____
Number of Searches: _____
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Search Site
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☐ CM-1
☐ Pre-S
Type of Search
☐ N.A. Sequence
☐ A.A. Sequence
☐ Structure
☒ Bibliographic

Vendors
☐ IG
☒ STN
☐ Dialog
☐ APS
☐ Geninfo
☐ SDC
☐ DARC/Questel
☐ Other

=> d his

(FILE 'HOME' ENTERED AT 11:30:30 ON 22 APR 2004)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:30:38 ON 22 APR 2004

E GINKGOLIDE/CN
L1 4 S E4,E6-E8
E GINKGOLIDE B/CN
E E3,E10
E GINKGOLIDE B/CN
L2 2 S E3,E10
L3 5 S E13,E14,E16-E18
E GINKGOLIC ACID/CN
L4 2 S E3-E5
E BILOBALIDE/CN
L5 1 S E3

FILE 'HCAPLUS' ENTERED AT 11:32:52 ON 22 APR 2004

E GINKGO/CT
L6 1851 S E4
E E3+ALL
L7 2267 S E5+NT
L8 1 S E7/BI
L9 2273 S E8,E9/BI
E E4+ALL
L10 2269 S E4+NT
L11 2299 S (GINKGO OR GINGKO) () BILOBA?
L12 2669 S L6-L11
L13 6 S L12 AND (ULTRAFILT? OR ULTRA(L) FILTR?)
L14 4 S L13 NOT (ELECTRON OR FOODS) /TI
L15 1 S (WO99-DE1812 OR DE98-19829516) /AP,PRN
E WILLMAR/PA,CS
L16 19 S E13-E34
E OSCHMANN R/AU
L17 25 S E3,E4
E OESCHMANN R/AU
E GRETHLEIN E/AU
L18 4 S E3-E5
L19 2 S L12 AND L16-L18
L20 5 S L14,L15,L19
L21 247 S L12 AND L1-L3
L22 339 S L12 AND (GINKGOLIDE OR GINGKOLIDE)
L23 66 S L12 AND (GINKGOLIC OR GINGKOLIC) () ACID
L24 398 S L21-L23
L25 138 S L12 AND ?TERPEN? (L) ?LACTONE?
L26 178 S L12 AND ?FLAVON? (L) ?GLYCOSIDE?
L27 554 S L24-L26
E FILTRATION/CT
E E3+ALL
L28 22283 S E3,E2+NT
E E12+ALL
L29 66577 S E2+NT
E E1+ALL
L30 83 S L12 AND L28,L29
L31 17 S L30 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
SEL DN AN 1 4 11 14 16 17
L32 11 S L31 NOT E1-E18
L33 15 S L20,L32
L34 228 S L27 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
L35 7 S L34 AND (?FILTER? OR ?FILTR?)
SEL DN AN 6 7
L36 5 S L35 NOT E19-E24

L37 18 S L33,L36
L38 18 S L37 AND L6-L37
L39 14 S L38 AND (LEAF OR LEAVE)
L40 4 S L38 NOT L39
L41 3 S L40 NOT COUMAROYL
L42 17 S L39,L41
L43 15 S L42 AND (?FLAVON? OR ?TERPEN? OR ?LACTONE?)
L44 2 S L42 NOT L43
L45 1 S L44 NOT ANTIOXIDANT
L46 16 S L43,L45
L47 0 S L12 AND COLD(L)?PRECIPITAT?
E PRECIPITATION/CT
L48 23147 S E3,E5+NT
L49 18 S E25
E E3+ALL
E E2+ALL
L50 20084 S E2+NT
E PRECIPITATION, THERMAL/CT
E E3+ALL
L51 0 S L12 AND L48-L50

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 11:56:39 ON 22 APR 2004

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FILE COVERS 1907 - 22 Apr 2004 VOL 140 ISS 17

FILE LAST UPDATED: 21 Apr 2004 (20040421/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L46 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:237574 HCAPLUS

ED Entered STN: 23 Mar 2004

TI Further purification of **Ginkgo biloba flavones**
by **ultrafiltration**

AU Xu, Zhi-hong; Xiao, Ze-yi; Li, Lei; Zhang, Zhi-bing

CS Department of Chemical Engineering, Nanjing University, Nanjing, Jiangsu,
210093, Peop. Rep. China

SO Jingxi Huagong (2004), 21(2), 112-114, 124

CODEN: JIHUFJ; ISSN: 1003-5214

PB Jingxi Huagong Bianjibu

DT Journal

LA Chinese

CC 9 (Biochemical Methods)

AB Expts. for further concentration of **flavones** from **Ginkgo biloba** extract were carried out by use of a sulfonated

polyethersulfone ultrafiltration membrane with mol. weight cut-off of 10000. Concentration of total **flavones** in the filtrate can be elevated from $w(\text{flavones}) = 21.3\%$ in the original extract to $w(\text{flavones}) = 39.2\%$. The effects of feed temperature and filtration pressure on the operation were tested and discussed. The results showed that the flux of ultrafiltration increased from $7.5 \text{ L}/(\text{m}^2 \cdot \text{h})$ to $11.2 \text{ L}/(\text{m}^2 \cdot \text{h})$ when the temperature varied from 30°C to 40°C , and it increased from $6.1 \text{ L}/(\text{m}^2 \cdot \text{h})$ to $10.0 \text{ L}/(\text{m}^2 \cdot \text{h})$ as the pressure changed from 0.15 MPa to 0.25 MPa , but both temperature and pressure had little impact on the selectivity.

L46 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:576795 HCAPLUS
DN 139:393391
ED Entered STN: 29 Jul 2003
TI Preparation of extracts of **Ginkgo biloba leaves**
AU Lei, Tianqian; Hu, Xiaojuan; Gao, Lin; Li, Huitao; Xu, Pinghui
CS Zhengzhou Pharmaceutical R + D Centre, Zhengzhou, 450002, Peop. Rep. China
SO Zhongguo Yiyao Gongye Zazhi (2002), 33(11), 536-538
CODEN: ZYGZEA; ISSN: 1001-8255
PB Zhongguo Yiyao Gongye Zazhi Bianjibu
DT Journal
LA Chinese
CC 11-1 (Plant Biochemistry)
AB The **Ginkgo biloba leaves** exts. was prepared using reflux extraction method and ultrafiltration combined with absorption resin chromatog. as purification method. Extraction conditions such as extraction reagents, the ratio of liquid to solid, extraction times, the condensing and drying temperature, and extract time were optimized, and the extractive ratio of total **flavonoids** was about 78% in the optimal condition. The purification process was effective, and the content of total **flavonoids** was above 24%.
ST **flavonoid Ginkgo leaf extn**
IT **Ginkgo biloba Leaf**
(preparation of exts. of **Ginkgo biloba leaves**)
IT **Flavonoids**
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation) (preparation of exts. of **Ginkgo biloba leaves**)
IT 117-39-5P, Quercetin 480-19-3P, Isorhamnetin 520-18-3P, Kaempferol
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation) (preparation of exts. of **Ginkgo biloba leaves**)

L46 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:142558 HCAPLUS
DN 136:189317
ED Entered STN: 22 Feb 2002
TI **Flavone**-containing plant extract solutions having improved storage and heat stability
IN Herrmann, Joachim; Oschmann, Rainer; Stumpf, Heinz; Thoele, Marc
PA Willmar Schwabe G.m.b.H. & Co., Germany; Willmar Schwabe G.m.b.H.
SO PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM A61K047-10

ICS A61K047-26; A61K035-78

CC 63-3 (Pharmaceuticals)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------------|--|----------|-----------------|----------|
| PI | WO 2002013869 | A2 | 20020221 | WO 2001-DE2871 | 20010724 |
| | WO 2002013869 | A3 | 20020620 | | |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| | RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| | AU 2001081717 | A5 | 20020225 | AU 2001-81717 | 20010724 |
| | EP 1309353 | A2 | 20030514 | EP 2001-960130 | 20010724 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | |
| PRAI | DE 2000-10040610 | A | 20000816 | | |
| | WO 2001-DE2871 | W | 20010724 | | |

AB The invention relates to **flavone**-containing plant extract solns. that are characterized by improved storage and heat stability with regard to their content in pharmaceutically relevant ingredients (especially **flavones** and/or **terpenes**). The plant extract solns. contain the corresponding plant exts. in an aqueous alc. solvent in an amount

of from 2-40 weight/weight% alc. in water. The pH of the solns. is in the acidic range of from pH 2 to pH 6. The solns. are used in the production of two-component injections: **flavone**-containing plant extract solution as the component (A); and a sterile buffer salt solution that has a physiol. acceptable composition as the component (B). The two components (A) and (B) are mixed for administration but are produced sep. and stored sep. in sep. containers until administered. Thus component A contained (weight/weight%): Ginkgo extract 0.916; sorbit 4.985; ethanol (96%) 19.940; 1N hydrochloric acid 0.474; water 73.685. The solution was sterilized; 2 mL of the solution

was

mixed with 2 mL buffer to obtain the physiol. acceptable pH 6.8.

ST **flavone** plant ext soln injection storage heat stability

IT **Ginkgo biloba**

Hawthorn (Crataegus)

Horse chestnut (Aesculus)

(extract of; **flavone**-containing plant extract solns. having improved storage and heat stability)

IT Buffers

Flower

Heat

Leaf

Osmolarity

Sterilization and Disinfection

Storage

Thermal stability

pH

(**flavone**-containing plant extract solns. having improved storage and heat stability)

IT Alditols

Flavones

Terpenes, biological studies

RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(**flavone**-containing plant extract solns. having improved storage and heat stability)

IT Drug delivery systems
 (injections; **flavone**-containing plant extract solns. having improved storage and heat stability)

IT Drug delivery systems
 (solns.; **flavone**-containing plant extract solns. having improved storage and heat stability)

IT 50-70-4, Sorbit, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 7632-05-5, Sodium phosphate 7647-01-0, Hydrochloric acid, biological studies 7647-14-5, Sodium chloride, biological studies 7664-38-2, Phosphoric acid, biological studies

RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (**flavone**-containing plant extract solns. having improved storage and heat stability)

L46 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:300788 HCAPLUS
 DN 132:326032
 ED Entered STN: 09 May 2000
 TI Manufacture of ginkgo **leaf** extract using dimethyl ether as extractant
 IN Miyata, Kazushige
 PA Asahi Chemical Industry Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM A61K035-78
 ICS A61K035-78; A23L001-30; A61P009-00
 CC 63-4 (Pharmaceuticals)
 Section cross-reference(s): 11, 17, 62

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 2000128792 | A2 | 20000509 | JP 1998-299238 | 19981021 <-- |
| PRAI | JP 1998-299238 | | 19981021 <-- | | |

AB The extract, which shows immunostimulating action, blood platelet activating factor-inhibiting action, cerebral function-improving action, etc. and is useful for drugs, food, and cosmetics, is manufactured as powder by (1) crushing **Ginkgo biloba leaves**, (2) extracting the crushed **leaves** with water-containing Me2O, (3) separating the extract from the extraction residue by **filtration**, (4) evaporating Me2O from the **filtrate** to precipitate hydrophobic substances in H2O, (5) removing the precipitate from the aqueous extract, (6) concentrating the aqueous extract, (7) adding electrolytes to the concentrated extract to precipitate the active ingredients, (8) recovering the insol. fraction, (9) dissolving the insol. fraction in water-containing Me2O, (10) separating the insol. matter, and then (11) removing the solvent and drying the residue. Extraction temperature and pressure may be 10-30° and 0.2-0.8 MPa, resp. Te electrolytes may be sulfates, chlorides, or nitrates of metals or ammonium. The method provides a ginkgo extract free from residual organic solvent. An extract powder manufactured from 100 g dried G. **biloba leaves** as described above contained **flavone glycosides** (total amts. of quercetin, kaempferol, and isorhamnetin) 24%, **terpene lactones** (total amts. of bilobalide, **ginkgolides** A, B, and C) 6%, **ginkgolic acid** ≤10 ppm, and Me2O ≤1 ppm.

ST ginkgo **leaf** ext manuf dimethyl ether extractant

IT **Glycosides**
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PUR

(Purification or recovery); BIOL (Biological study); OCCU (Occurrence);
PREP (Preparation)

(**flavonoid**, oxo; manufacture of ginkgo leaf extract using
di-Me ether as extractant)

IT **Terpenes**, biological studies

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PUR
(Purification or recovery); BIOL (Biological study); OCCU (Occurrence);
PREP (Preparation)

(**lactones**; manufacture of ginkgo leaf extract using di-Me
ether as extractant)

IT Extractants

Ginkgo biloba

(manufacture of ginkgo leaf extract using di-Me ether as extractant)

IT 117-39-5P, Quercetin 480-19-3P, Isorhamnetin 520-18-3P, Kaempferol

15291-75-5P, Ginkgolide A 15291-76-6P,

Ginkgolide C 15291-77-7P, Ginkgolide B

33570-04-6P, Bilobalide

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PUR
(Purification or recovery); BIOL (Biological study); OCCU (Occurrence);
PREP (Preparation)

(manufacture of ginkgo leaf extract using di-Me ether as extractant)

IT 115-10-6, Dimethyl ether

RL: NUU (Other use, unclassified); USES (Uses)

(manufacture of ginkgo leaf extract using di-Me ether as extractant)

IT **15291-75-5P, Ginkgolide A 15291-76-6P,**

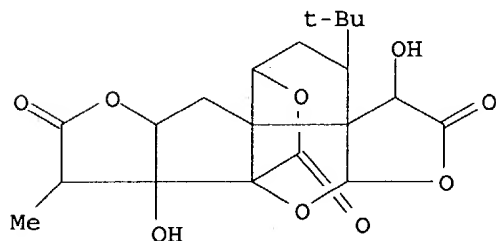
Ginkgolide C 15291-77-7P, Ginkgolide B

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PUR
(Purification or recovery); BIOL (Biological study); OCCU (Occurrence);
PREP (Preparation)

(manufacture of ginkgo leaf extract using di-Me ether as extractant)

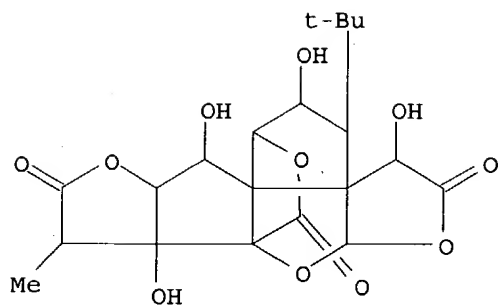
RN 15291-75-5 HCAPLUS

CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-
b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione,
3-(1,1-dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-,
(1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11aS)-(9CI) (CA INDEX NAME)

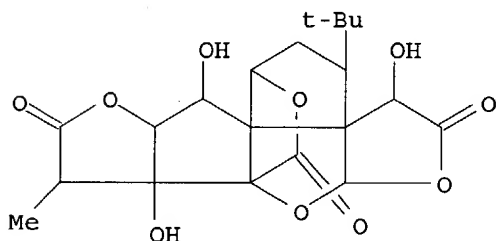


RN 15291-76-6 HCAPLUS

CN 9H-1,7a-(Epoxymethano)-1H,6aH-cyclopenta[c]furo[2,3-
b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione,
3-(1,1-dimethylethyl)hexahydro-2,4,7b,11-tetrahydroxy-8-methyl-,
(1S,2R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR)-(9CI) (CA INDEX NAME)



RN 15291-77-7 HCAPLUS
 CN 9H-1,7a-(Epoxyethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b,11-trihydroxy-8-methyl-, (1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR) - (9CI) (CA INDEX NAME)



L46 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:116846 HCAPLUS
 DN 132:148759
 ED Entered STN: 18 Feb 2000
 TI A method of identifying and recovering products exuded from a plant
 IN Raskin, Ilya
 PA Rutgers, the State University of New Jersey, USA
 SO PCT Int. Appl., 78 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM A01K065-00
 ICS C12Q001-02
 CC 9-12 (Biochemical Methods)
 Section cross-reference(s): 5, 11, 16, 17, 62, 63
 FAN.CNT 3

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| WO 2000007437 | A1 | 20000217 | WO 1999-US17893 | 19990806 <-- |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2339739 | AA | 20000217 | CA 1999-2339739 | 19990806 <-- |
| AU 9953423 | A1 | 20000228 | AU 1999-53423 | 19990806 <-- |

EP 1100324 A1 20010523 EP 1999-939064 19990806 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

PRAI US 1998-130185 A 19980806 <--

WO 1999-US17893 W 19990806

AB This invention provides a method of identifying biol. active or otherwise valuable substances exuded from or onto a plant surface, specifically the plant cuticle. This invention also provides a method of identifying and recovering substances exuded from or onto the roots of a plant. The invention further comprises libraries of substances exuded or secreted from various plant species, which may be elicited or induced to produce one or more of such substances. **Leaves** and roots of various plants were contacted with solvent and the solvent exts. were bioassayed against bacteria and fungi suspensions to screen for antibacterial and antifungal activity. Root exudates and cuticular washings were also subjected to a sniffing test.

ST plant exudate bioagent identification purifn; antimicrobial agent screening plant exudate; odor screening plant wash

IT **Isoflavonoids**

RL: ANT (Analyte); BPN (Biosynthetic preparation); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)

(HPLC separation of, from soybeans; identifying and recovering products exuded from plants)

IT Cell wall

(as biotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)

IT Condiments

(flavor-enhancing; identifying and recovering products exuded from plants)

IT Acalypha hispida

Aconitum napellus

Actinidia kolomikta

Agrimony (Agrimonia eupatoria)

Agrimony (Agrimonia pilosa)

Ajuga reptans

Alchemilla

Allium fistulosum

Allium nutans

Anchusa officinalis

Anemone japonica

Angelica polymorpha

Angelica sinensis

Anthericum ramosum

Anthurium elegans

Antibacterial agents

Antimicrobial agents

Aristolochia clematitis

Arnica chamissonis

Artemisia absinthium

Avens (Geum fanieri)

Avens (Geum macrophyllum)

Baptisia australis

Barberry (Berberis)

Belladonna (Atropa belladonna)

Bergenia crassifolia

Bioassay

Birch (Betula alba)

Birch (Betula nigra)

Birch (Betula pendula)

Brassica juncea

Cachrys alpina

Calycanthus floridus

Campanula carpatica
Caper (Capparis spinosa inermis)
Carlina acaulis
Celosia argentea cristata
Celtis occidentalis
Cerasus japonica
Chestnut (Castanea sativa)
Chickpea (Cicer arietinum)
Chilopsis linearis
Chimonanthus praecox
Cistus incanus
Cladium mariscus
Clematis mandschurica
Clematis recta
Clerodendrum speciosissimum
Codiaeum variegatum
Columbine (Aquilegia vulgaris)
Comfrey (Symphytum officinale)
Convallaria majalis
Crambe pontica
Creosote bush (Larrea tridentata)
Cunninghamia lanceolata
Cyathula officinalis
Cyperus esculentus
Cypress (Cupressus lusitanica)
Cypress (Cupressus sempervirens)
Datura metel
Datura suaveolens
Digitalis lutea
Dolichos lablab
Drug screening
Echinops sphaerocephalus
Eclipta alba
Elder (Sambucus nigra)
Elecampane (Inula helenium)
Ephedra nevadensis
Eryngium campestre
Erythrina crista-galli
Erythrina glabelliferus
Euptelea pleiosperma
Fagopyrum suffruticosum
Ficus triangularis
Flavor
Flax (Linum hirsutum)
Fractionation
Fungicides
Galium spurium
Genista tinctoria
Gentian (Gentiana tibetica)
 Ginkgo biloba
Gnetum gnemon
Grape (Vitis labrusca)
Gratiola officinalis
HPLC
Hazel (Corylus avellana)
Heracleum pubescens
Herbicides
Horse chestnut (Aesculus hippocastanum)
Horse chestnut (Aesculus woerlitzensis)
Horseradish (Armoracia lapathifolia)
Hosta fortunei
Hosta lancifolia
Hosta sieboldii

Hydroponics
Hyoscyamus niger
Hyssopus seravschanicus
Insecticides
Ipomoea purpurea
Ipomoea tricolor
Iris pallida
Iris pseudacorus
Jacobinia
Kigelia pinnata
Laser trilobum
Laurus nobilis
Leaf
Leonurus sibiricus
Liatris spicata
Livistona chinensis
Loquat (Eriobotrya japonica)
Lupine (Lupinus luteus)
Lupine (Lupinus polyphyllus)
Macleaya cordata
Magnolia cobus
Matteuccia struthiopteris
Meadow rue (Thalictrum)
Meadow rue (Thalictrum flavum)
Meadow rue (Thalictrum minus)
Menispermum dauricum
Metrosideros excelsa
Murraya exotica
Oak (Quercus imbricaria)
Oak (Quercus nigra)
Oak (Quercus rubra)
Odor and Odorous substances
Oreopanax capitatus
Osmanthus fragrans
Ostrya carpinifolia
Ostrya connogea
Oxybaphus nyctagineus
Pachira affinis
Papaya (Carica papaya)
Peganum harmala
Peony (Paeonia daurica)
Peony (Paeonia lactiflora)
Peony (Paeonia suffruticosa)
Pepper (Piper cubeba)
Perfumes
Persimmon (Diospyros kaki)
Philodendron speciosum
Phoenix zeylanica
Phyllanthus grandifolius
Physalis cretica
Physalis ixocarpa
Pine (Pinus pinea)
Pithecellobium unguis-cati
Plant analysis
Podocarpus spinulosa
Podophyllum hexandrum
Polygonum aviculare
Polygonum latifolium
Portulaca oleracea
Pot marjoram
Potentilla alba
Poterium sanguisorba
Psychotria metbacterio-domasica

Psychotria nigropunctata
 Pterygota alata
 Rauvolfia caffra
 Rhododendron
 Root
 Rose (Rosa multiflora)
 Rue (Ruta graveolens)
 Sanchezia nobilis
 Schisandra chinensis
 Scotch broom (Cytisus scoparius)
 Scutellaria altissima
 Scutellaria baicalensis
 Scutellaria cretica
 Sedum album
 Sedum telephium
 Selinum monnieri
 Senecio platyphyllus
 Senna (Cassia fasciculata)
 Senna (Cassia hebecarpa)
 Silk oak (Grevillea robusta)
 Silybum marianum

Solvent extraction

Solvents
 Sorbus aucuparia
 Soybean (Glycine max)
 St.-John's-wort (Hypericum perforatum)
 Sweet clover (Melilotus medicaginoide)
 Tamarind (Tamarindus indica)
 Tarragon (Artemisia dracunculus)
 Taxodium distichum
 Tephrosia grandiflora
 Tetraclinis articulata
 Teucrium hamedris
 Thermopsis fabacea
 Thuja occidentalis
 Thyme (Thymus cretaceus)
 Trevesia sundaica
 Trichosanthes kirilowii
 Tulip tree
 UV radiation
 Veratrum nigrum
 Vinca minor
 Walnut (Juglans regia)
 Willow (Salix babylonica)
 Xanthium sibiricum

(identifying and recovering products exuded from plants)

IT Phosphatidic acids

Polyoxyalkylenes, uses

RL: NUU (Other use, unclassified); USES (Uses)

(identifying and recovering products exuded from plants)

IT Metabolism

(metabolites, solvent extraction of plant cuticular material containing;

identifying and recovering products exuded from plants)

IT Aspergillus flavus

Bacteria (Eubacteria)

Fungi

Microorganism

Penicillium nigra

Pseudomonas aeruginosa

Saccharomyces cerevisiae

Staphylococcus aureus aureus

Virus

(response of; identifying and recovering products exuded from plants)

- IT Lipids, analysis
Proteins, general, analysis
Waxes
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(solvent extraction of plant cuticular material containing; identifying and recovering products exuded from plants)
- IT Escherichia coli
(strain K-12.F, response of; identifying and recovering products exuded from plants)
- IT 446-72-0P, Genistein 486-66-8P, Daidzein
RL: ANT (Analyte); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(HPLC separation of, from soybeans; identifying and recovering products exuded from plants)
- IT 64-19-7, Acetic acid, biological studies 7761-88-8, Silver nitrate, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(as abiotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)
- IT 119-36-8, Methyl salicylate 1211-29-6, Methyl jasmonate 9012-76-4, Chitosan
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(as biotic elicitor, for agent recovery from roots; identifying and recovering products exuded from plants)
- IT 54-11-5P, Nicotine 4569-98-6P, 5-O-Methyl-genistein
RL: BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(identifying and recovering products exuded from plants)
- IT 50-81-7, L-Ascorbic acid, uses 67-66-3, Chloroform, uses 69-72-7, Salicylic acid, uses 70-18-8, Glutathione, uses 71-50-1, uses 75-09-2, Methylene chloride, uses 151-21-3, SDS, uses 303-07-1, 2,6-Dihydroxybenzoic acid 445-29-4, 2-Fluorobenzoic acid 506-32-1, Arachidonic acid 541-35-5, Butanamide 602-94-8, Pentafluorobenzoic acid 621-82-9, Cinnamic acid, uses 4685-14-7, Paraquat 6894-38-8, Jasmonic acid 7439-92-1, Lead, uses 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 7681-49-4, Sodium fluoride, uses 7722-84-1, Hydrogen peroxide, uses 7732-18-5, Water, uses 9008-22-4, Laminarin 9046-38-2, Polygalacturonic acid 25249-06-3, Polygalacturonic acid 25322-68-3 26780-96-1, HSL 32839-30-8, Eicosapentaenoic acid 41034-18-8 78111-17-8, Okadaic acid 101932-71-2, Calyculin A 147852-83-3
RL: NUU (Other use, unclassified); USES (Uses)
(identifying and recovering products exuded from plants)
- IT 54990-88-4, Cutin
RL: AMX (Analytical matrix); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(solvent extraction of plant cuticular material containing; identifying and recovering products exuded from plants)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Chakraborty; FOLIA Microbiol 1994, V39(5), P409 HCAPLUS
- (2) Grieve, M; A Modern Herbal: The Medicinal, Culinary, Cosmetic And Economic Properties, Cultivation And Folklore Of Herbs, Grasses, Fungi, Shrubs And Trees With All Their Modern Scientific Uses 1996, P464
- (3) Liu; Dokkyo Journal Of Medical Sciences 1995, V22(4), P253 HCAPLUS
- (4) Stevens; Phytochemistry 1995, V39(4), P805 HCAPLUS
- (5) Tyler, V; Herbs of Choice: the Therapeutic Use of Phytomedicinals 1994, P77

L46 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:15604 HCAPLUS
 DN 132:35038
 ED Entered STN: 07 Jan 2000
 TI Water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**
 IN **Oschmann, Rainer; Grethlein, Eckardt**
 PA **Willmar Schwabe G.m.b.H. and Co., Germany**
 SO Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM A23L001-221
 ICS A23L001-30; A61K035-78; A61K031-70; A61K031-365; A61K007-00
 CC 17-6 (Food and Feed Chemistry)
 Section cross-reference(s): 62, 63
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|------|--|------|----------|------------------|----------|-----|
| PI | DE 19829516 | A1 | 20000105 | DE 1998-19829516 | 19980702 | <-- |
| | CA 2335148 | AA | 20000113 | CA 1999-2335148 | 19990619 | <-- |
| | WO 2000001397 | A1 | 20000113 | WO 1999-DE1812 | 19990619 | <-- |
| | W: AU, CA, JP, US | | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | | |
| | AU 9954069 | A1 | 20000124 | AU 1999-54069 | 19990619 | <-- |
| | AU 745660 | B2 | 20020328 | | | |
| | EP 1089748 | A1 | 20010411 | EP 1999-939923 | 19990619 | <-- |
| | EP 1089748 | B1 | 20030604 | | | |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL | | | | | |
| | JP 2002519383 | T2 | 20020702 | JP 2000-557843 | 19990619 | <-- |
| | AT 241995 | E | 20030615 | AT 1999-939923 | 19990619 | <-- |
| PRAI | DE 1998-19829516 | A | 19980702 | | | <-- |
| | WO 1999-DE1812 | W | 19990619 | | | <-- |

AB A water-soluble native vegetable dried extract from plant parts, especially from **Ginkgo biloba** leaves, contains **flavone glycosides**, **terpene lactones** and other components and is prepared from an **ultrafiltered** alc.-water extract preferably. The extract is used in dietetic foods, drugs and cosmetics.

ST **Ginkgo leaf ext manuf flavone glycoside**

IT **terpenoid**

IT Food
 (dietetic; water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT **Glycosides**
 RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (**flavonoid**, oxo; water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT **Terpenes**, biological studies
 RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (**lactones**; water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT **Ginkgo biloba**

(leaves; water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT Cosmetics

Drugs

Plant (Embryophyta)

Ultrafiltration

(water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT **Terpenes**, biological studies

RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT 9004-34-6, Cellulose, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process) (regenerated, **ultrafiltration** with S 1Y3; water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

IT 15291-75-5P, Ginkgolide A 15291-76-6P,

Ginkgolide C 15291-77-7P, Ginkgolide B

22910-60-7P, Ginkgolic acid 33570-04-6P, Bilobalide

RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; DE 19829516 A1 HCAPLUS

IT 15291-75-5P, Ginkgolide A 15291-76-6P,

Ginkgolide C 15291-77-7P, Ginkgolide B

RL: BUU (Biological use, unclassified); FFD (Food or feed use); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water-soluble native vegetable dried extract, in particular **Ginkgo biloba** extract with high content of **terpenoids** and **flavone glycosides**)

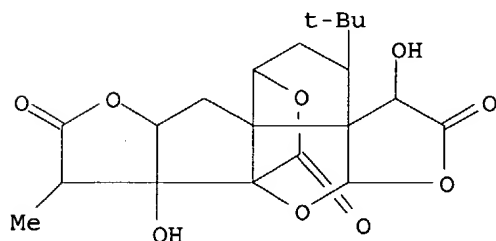
RN 15291-75-5 HCAPLUS

CN 9H-1,7a-(Epoxyethano)-1H,6aH-cyclopenta[c]furo[2,3-

b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione,

3-(1,1-dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-,

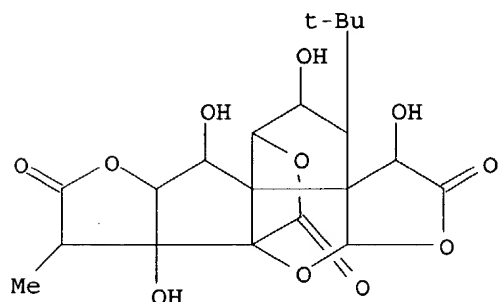
(1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11aS) - (9CI) (CA INDEX NAME)



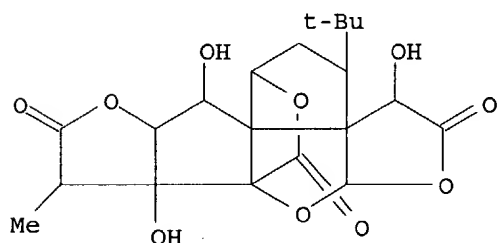
RN 15291-76-6 HCAPLUS

CN 9H-1,7a-(Epoxyethano)-1H,6aH-cyclopenta[c]furo[2,3-

b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione,
3-(1,1-dimethylethyl)hexahydro-2,4,7b,11-tetrahydroxy-8-methyl-,
(1S,2R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR) - (9CI) (CA INDEX NAME)



RN 15291-77-7 HCAPLUS
CN 9H-1,7a-(Epoxy-methano)-1H,6aH-cyclopenta[c]furo[2,3-
b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione,
3-(1,1-dimethylethyl)hexahydro-4,7b,11-trihydroxy-8-methyl-,
(1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR) - (9CI) (CA INDEX NAME)



L46 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:729675 HCAPLUS
DN 130:107142
ED Entered STN: 18 Nov 1998
TI Study on leaching technology of **flavonoids** from **Ginkgo biloba leaves**
AU Wang, Chengzhang; Yu, Qing; Chen, Xiang; Tan, Weihong; Shen, Zhaobang
CS Research Institute Chemical Processing & Utilization Forest Products, CAF, Nanjing, 210042, Peop. Rep. China
SO Tianran Chanwu Yanjiu Yu Kaifa (1998), 10(2), 66-70
CODEN: TCYKE5; ISSN: 1001-6880
PB Tianran Chanwu Yanjiu Yu Kaifa Bianjibu
DT Journal
LA Chinese
CC 9-9 (Biochemical Methods)
AB The extraction of lower contents of **flavonoids** from **Ginkgo biloba** L. was studied, leaching conditions were identified as leaching reagent of 50% .apprx. 60% EtOH-H2O, the ratio of liquid to solid for 8:1.apprx.6:1, leaching temperature between 60.apprx.70° and leaching time for 3h and 1h, two times. The extractive ratio of **flavonoids** was over 85%. The extract of **Ginkgo biloba** which contained 26% .apprx. 31% **flavonoids** and had 1.6%.apprx.1.9% yields was prepared by the resins of A-1 and A-2. The technol. has been used in pilot production and has lower product cost.
ST leaching technol **flavonoid Ginkgo biloba leaf**

- IT **Extraction**
Ginkgo biloba
Leaching
Leaf
(leaching technol. of **flavonoids** from **Ginkgo biloba leaves**)
- IT **Flavonoids**
RL: PUR (Purification or recovery); PREP (Preparation)
(leaching technol. of **flavonoids** from **Ginkgo biloba leaves**)
- L46 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:718286 HCAPLUS
DN 130:136067
ED Entered STN: 12 Nov 1998
TI Technology for extracting and purifying **flavones** from ginkgo leaves
AU Yang, Shengyuan; Liang, Zhiquan
CS Institute of Food Fermentation, Guangxi University, Nanning, 530004, Peop. Rep. China
SO Shipin Kexue (Beijing) (1998), 19(2), 24-25
CODEN: SPKHD5; ISSN: 1002-6630
PB Zhongguo Shipin Zazhishe
DT Journal
LA Chinese
CC 9-3 (Biochemical Methods)
Section cross-reference(s): 11
AB A technol. process for extraction of **flavones** from ginkgo leaves and its purification by absorbent resin was introduced.
ST ginkgo leaf flavone extn purifn
IT **Extraction**
(of **flavones**; technol. for extracting and purifying **flavones** from ginkgo leaves)
- IT **Ginkgo biloba**
Leaf
(technol. for extracting and purifying **flavones** from ginkgo leaves)
- IT **Flavones**
RL: PUR (Purification or recovery); PREP (Preparation)
(technol. for extracting and purifying **flavones** from ginkgo leaves)
- L46 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:679858 HCAPLUS
DN 130:114793
ED Entered STN: 28 Oct 1998
TI Extraction of effective components from ginkgo leaves and their functions
AU Zeng, Youliang; Lu, Nanting; Zhou, Li
CS East China University of Technology, Shanghai, 200237, Peop. Rep. China
SO Shanghai Huagong (1998), 23(5), 39-42
CODEN: SHAHE2; ISSN: 1004-017X
PB Shanghai-shi Huaxue Gongyeju Kexue Jishu Qingbao Yanjiuso
DT Journal; General Review
LA Chinese
CC 63-0 (Pharmaceuticals)
Section cross-reference(s): 1
AB A review with 19 refs. to introduce the effective components of ginkgo leaves, their pharmacol. functions and their extraction from ginkgo leaves by bio-separation processes.
ST review ginkgo leaf flavone ginkgolide extn
IT Steroids, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PEP

(Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(cardenolide; extraction of effective components from ginkgo leaves and their functions)

IT **Extraction****Ginkgo**

(extraction of effective components from ginkgo leaves and their functions)

IT **Flavones**

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(extraction of effective components from ginkgo leaves and their functions)

L46 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:257224 HCAPLUS

DN 129:51633

ED Entered STN: 07 May 1998

TI Design of some novel polymeric adsorbents with high selectivity based on hydrogen bonding

AU Xu, Mingcheng; Shi, Zuoqing; He, Binglin

CS Institute of Polymer Chemistry, Nankai University, Tianjin, 300071, Peop. Rep. China

SO International Conference on Biorelated Polymers Controlled Release Drugs and Reactive Polymers, Xi'an, Peop. Rep. China, May 8-11, 1997 (1997), 182-183 Publisher: Nankai University, Institute of Polymer Chemistry, Tianjin, Peop. Rep. China.

CODEN: 65XOAU

DT Conference

LA English

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 17, 63

AB Three types of polymeric adsorbents with high selectivity based on hydrogen bonding were synthesized and used for the purification and extraction

of natural products. Glutaraldehyde crosslinked hybrides of PVA and gelatin were prepared by reversed-suspension polymerization and used to remove tannins from

Chinese herbal drugs. Macroporous spherical sorbents based on

urea-formaldehyde copolymn. were used to purify **Ginkgo**

biloba L. crude leaf extract; active ingredients

flavonol glycosides and **terpene**

lactones were at international standard levels. Macroporous

p-hydroxystyrene-divinylbenzene copolymer was the third adsorbent prepared and it was used to recover coffeine from tea extract

ST polymer adsorbent hydrogen bonding purifn extn; herbal drug tannin Ginkgo caffeine tea

IT Gelatins, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(crosslinked, design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)

IT Adsorbents

Extraction**Ginkgo biloba**

Purification

Tea (Camellia sinensis)

(design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)

IT Aminoplasts

Polymers, processes

Tannins

RL: PEP (Physical, engineering or chemical process); PROC (Process)

- (design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT Natural products
RL: PUR (Purification or recovery); PREP (Preparation)
(design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT Natural products, pharmaceutical
RL: PUR (Purification or recovery); PREP (Preparation)
(design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT **Terpenes**, preparation
RL: PUR (Purification or recovery); PREP (Preparation)
(design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT **Glycosides**
RL: PUR (Purification or recovery); PREP (Preparation)
(**flavonoid**; design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT 9002-89-5, PVA
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(blends, design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)
- IT 58-08-2, processes 111-30-8D, Glutaraldehyde, crosslinked with PVA and gelatin 9011-05-6, Urea-formaldehyde copolymer 60280-86-6
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(design of novel polymeric adsorbents with high selectivity based on hydrogen bonding)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.

RE

- (1) Christopher, T; J Am Chem Soc 1993, V115, P1321
- (2) O'Reilly, J; Proc Phytochem Soc Eur 1993, V34, P253 HCAPLUS
- (3) Ya, C; J Chem Soc Perkin Trans 1990, V2, P2197

L46 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:143903 HCAPLUS

DN 128:142679

ED Entered STN: 11 Mar 1998

TI Continuous solvent extraction of medicinal compounds from plants

IN Kuhn, Gerhard

PA Max Zeller Soehne Ag, Switz.

SO Patentschrift (Switz.), 7 pp.

CODEN: SWXXAS

DT Patent

LA German

IC ICM A61K035-78

ICS B01D011-00

CC 48-1 (Unit Operations and Processes)

Section cross-reference(s): 11, 62, 63

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------|------|--------------|-----------------|--------------|
| CH 688645 | A | 19971231 | CH 1995-1385 | 19950512 <-- |
| PRAI CH 1995-1385 | | 19950512 <-- | | |

AB Mashed or sheared plant material is subjected to a preliminary extraction and then to a continuous extraction with alkanol or alkanol/water mixts. using a band filter. The installation comprises a unit for forming a mash from the plant material and a liquid medium, ≥ 2 apparatus for countercurrent distribution of solvent mixture onto the plant material on the band filter, and ≥ 2 collectors for recovery of the extract for further treatment. The plant materials can be from *Allium* sp., *Ginkgo* sp., *Agnus castus* fructus, *Crataegus folium cum flores*, *Hedera helix* folium, *Ginkgo bilobae* folium, *Passiflora herba*, *Crataegi* fructus, *Hyperici herba*, *Salicis cortex/herba* or *Petasitidis rhizoma*. In

an example, 0.08-0.1 weight% hypericin was pre-extracted from 200 kg of ground St.-John's-wort using 50% ethanol at 50°C for 20 min and under cooling to 30°C for 20 min. After 4 h, the settled extracted material was separated on a vacuum band filter. The filter cake was re-extracted or washed in countercurrent flow.

ST plant medicinal compd continuous solvent extn; hypericin continuous solvent extn plant; drug continuous solvent extn plant

IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aliphatic; continuous solvent extraction of medicinal compds. from plants)

IT Filters
(belt filters; continuous solvent extraction of medicinal compds. from plants)

IT Allium
Drugs
Ginkgo
Hawthorn (Crataegus)
Passionflower (Passiflora)
Petasites
Plant (Embryophyta)
Solvent extraction
St.-John's-wort (Hypericum)
Willow (Salix)
(continuous solvent extraction of medicinal compds. from plants)

IT Natural products
RL: PUR (Purification or recovery); PREP (Preparation)
(continuous solvent extraction of medicinal compds. from plants)

IT Vitex agnus-castus
(fruits; continuous solvent extraction of medicinal compds. from plants)

IT **Ginkgo biloba**
Ivy (Hedera helix)
(leaves; continuous solvent extraction of medicinal compds. from plants)

IT Filters
(vacuum filters; continuous solvent extraction of medicinal compds. from plants)

IT 64-17-5, Ethanol, uses
RL: NUU (Other use, unclassified); USES (Uses)
(continuous solvent extraction of medicinal compds. from plants)

IT 548-04-9P, Hypericin
RL: PUR (Purification or recovery); PREP (Preparation)
(continuous solvent extraction of medicinal compds. from plants)

L46 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:113488 HCAPLUS

DN 128:172016

ED Entered STN: 26 Feb 1998

TI Study on optimum extraction process of **flavonoids** from **Ginkgo biloba** L

AU Hu, Min; Gan, Lu; Jiang, Fatang; Zhang, Shenghua

CS Dep. Food Sci., Huazhong Agric. Univ., Wuhan, 430070, Peop. Rep. China

SO Shipin Gongye Keji (1997), (5), 49-51

CODEN: SGOKE6; ISSN: 1002-0306

PB Shipin Gongye Keji Bianjibu

DT Journal

LA Chinese

CC 63-4 (Pharmaceuticals)

AB The optimum extracting conditions of **flavonoids** in **Ginkgo**

biloba L. were investigated by using the orthogonal design. The results showed that 90°C, 9:1 of 70% ethanol to **Ginkgo**

biloba L. weight ratio, for 4 times and 1h for each time were

optimal. The average extraction rate was as high as 95.6%. The average

recovery of

total **flavonoids** determined by spectrophotometry was 102.8% and the coefficient of variation was 0.41%.

ST **flavonoid** optimum extn Ginkgo

IT **Extraction**

Ginkgo biloba

(optimum extraction process of **flavonoids** from Ginkgo)

IT **Flavonoids**

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)

(optimum extraction process of **flavonoids** from Ginkgo)

L46 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:82596 HCAPLUS

DN 126:119332

ED Entered STN: 05 Feb 1997

TI A method for water extraction of total **flavone** from **ginkgo biloba** leaves

AU Liu, Zheng; Chen, Yongshen

CS Dep. Applied Chem., Guilin Coll. Technol., Guilin, 541004, Peop. Rep. China

SO Huaxue Shijie (1996), 37(7), 355-358

CODEN: HUA KAB; ISSN: 0367-6358

PB Shanghaishi Huaxue Huagong Xuehui

DT Journal

LA Chinese

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 63

AB A process for water extraction of total **flavone** from **ginkgo biloba** leaves was reported. The process comprises repeated extraction of **flavone** from **ginkgo biloba** leaves with water and purification by chromatog. with polyamide resin as adsorbent and EtOH as eluent.

ST **flavone** water extn **ginkgo biloba** leaf

IT Polyamides, uses

RL: NUU (Other use, unclassified); USES (Uses)

(adsorbent; method for water extraction of total **flavone** from **ginkgo biloba** leaves)

IT Adsorbents

(for water extraction of total **flavone** from **ginkgo biloba** leaves)

IT **Extraction**

Ginkgo biloba

(method for water extraction of total **flavone** from **ginkgo biloba** leaves)

IT 64-17-5, Ethanol, uses

RL: NUU (Other use, unclassified); USES (Uses)

(eluent; method for water extraction of total **flavone** from **ginkgo biloba** leaves)

IT 7732-18-5, Water, uses

RL: NUU (Other use, unclassified); USES (Uses)

(method for water extraction of total **flavone** from **ginkgo biloba** leaves)

IT 525-82-6P, **Flavone**

RL: PUR (Purification or recovery); PREP (Preparation)

(method for water extraction of total **flavone** from **ginkgo biloba** leaves)

L46 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

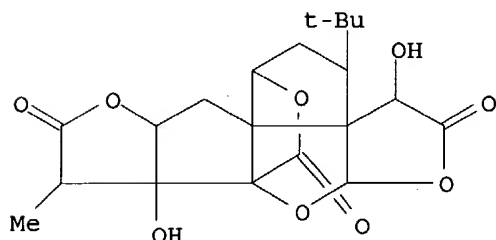
AN 1997:73337 HCAPLUS

DN 126:162069

ED Entered STN: 01 Feb 1997

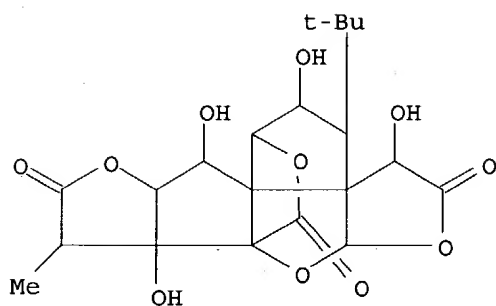
- TI An improved method for extracting **flavone glycosides**
from **ginkgo leaves**
- AU Qiu, Guofu; Hu, Quanyuan; Li, Hong; Li, Chongching; Li, Jing
- CS Basic Medical College, Hubei Medical Univ., Wuhan, 430071, Peop. Rep.
China
- SO Hubei Yike Daxue Xuebao (1996), 17(3), 205-206
CODEN: HYDXFU; ISSN: 1000-243X
- PB Hubei Yike Daxue Xuebao Bianjibu
- DT Journal
- LA Chinese
- CC 63-4 (Pharmaceuticals)
- AB An improved method for extracting **flavones glycosides** from
Ginkgo leaves is described. The method was used to remove
chlorophyll and other aliphatic soluble impurities by using absorbent cotton
absorption then cellulose pulp codeposition. The method was very
effective, and the yield of **flavone glycosides** was
73%.
- ST **flavone glycoside** extn Ginkgo
- IT **Extraction**
Ginkgo
(extraction of **flavone glycosides** from **Ginkgo**
leaves)
- IT **Glycosides**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PEP
(Physical, engineering or chemical process); THU (Therapeutic use); BIOL
(Biological study); OCCU (Occurrence); PROC (Process); USES (Uses)
(**flavonoid**, oxo; extraction of **flavone**
glycosides from **Ginkgo leaves**)
- IT 9004-34-6, Cellulose, biological studies
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic
use); BIOL (Biological study); PROC (Process); USES (Uses)
(extraction of **flavone glycosides** from **Ginkgo**
leaves)
- L46 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1996:436102 HCAPLUS
- DN 125:95719
- ED Entered STN: 24 Jul 1996
- TI Sample preparation of standardized extracts of **Ginkgo**
biloba by supercritical fluid extraction
- AU van Beek, Teris A.; Taylor, Larry T.
- CS Dep. Org. Chem., Agric. Univ., Wageningen, 6703 HB, Neth.
- SO Phytochemical Analysis (1996), 7(4), 185-191
CODEN: PHANEL; ISSN: 0958-0344
- PB Wiley
- DT Journal
- LA English
- CC 63-4 (Pharmaceuticals)
- AB A method of sample preparation of standardized exts. of **Ginkgo**
biloba using supercrit. fluid extraction (SFE) is described.
Ginkgolides and bilobalide could selectively extracted with carbon
dioxide containing 10% methanol at 335 atm and 45°C from a methanolic
solution of the extract. An in-line **filter** of silica gel was found to
be essential for obtaining clean samples. Trapping was carried out with a
solid silica gel trap at 80°C. After eluting the trap with Me
acetate, the sample could be analyzed by gas liquid chromatog. or high
performance liquid chromatog. Recoveries of the five **terpenes**
relative to a standard solid phase extraction (SPE) procedure varied for two
different exts. from 98.6 to 102.3%. Relative standard deviations were better
for SFE than for SPE. A further advantage for the SFE over the SPE method
is that it is much less laborious. A disadvantage is that it requires an
automated supercrit. extractor. With a small adaptation, the SFE method
could also be used for finished ginkgo drugs in an aqueous alc. solution

- ST ginkgo extn supercrit carbon dioxide
 IT **Ginkgo biloba**
 (use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- IT **Terpenes and Terpenoids**, biological studies
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
 (use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- IT **Extraction**
 (supercrit., use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- IT 15291-75-5, **Ginkgolide a** 15291-76-6, **Ginkgolide C** 15291-77-7, **Ginkgolide b** 33570-04-6, **Bilobalide** 107438-79-9, **Ginkgolide J**
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
 (use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- IT 124-38-9, Carbon dioxide, biological studies
 RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- IT 15291-75-5, **Ginkgolide a** 15291-76-6, **Ginkgolide C** 15291-77-7, **Ginkgolide b** 107438-79-9, **Ginkgolide J**
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
 (use of supercrit. fluid extraction for the simultaneous extraction and purification of standardized ginkgo exts.)
- RN 15291-75-5 HCAPLUS
 CN 9H-1,7a-(Epoxy-methano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b-dihydroxy-8-methyl-, (1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11aS)- (9CI) (CA INDEX NAME)



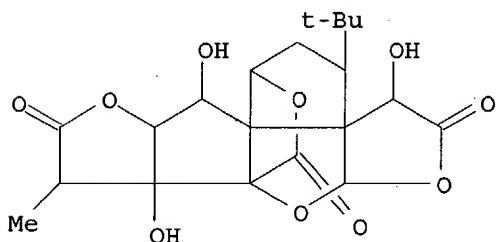
- RN 15291-76-6 HCAPLUS
 CN 9H-1,7a-(Epoxy-methano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-2,4,7b,11-tetrahydroxy-8-methyl-,

(1S,2R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR) - (9CI) (CA INDEX NAME)



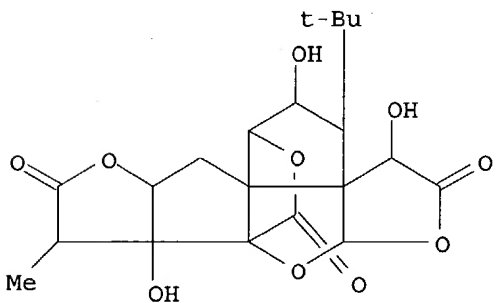
RN 15291-77-7 HCAPLUS

CN 9H-1,7a-(Epoxyethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-4,7b,11-trihydroxy-8-methyl-, (1R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11R,11aR) - (9CI) (CA INDEX NAME)



RN 107438-79-9 HCAPLUS

CN 9H-1,7a-(Epoxyethano)-1H,6aH-cyclopenta[c]furo[2,3-b]furo[3',2':3,4]cyclopenta[1,2-d]furan-5,9,12(4H)-trione, 3-(1,1-dimethylethyl)hexahydro-2,4,7b-trihydroxy-8-methyl-, (1S,2R,3S,3aS,4R,6aR,7aR,7bR,8S,10aS,11aR) - (9CI) (CA INDEX NAME)



L46 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:429238 HCAPLUS

DN 113:29238

ED Entered STN: 21 Jul 1990

TI Extract from **Ginkgo biloba** leaves as
circulatory drugs

IN Ayroles, Georges; Rossard, Rene Marc; Cadiou, Michel

PA Fabre, Pierre, Industrie, Fr.

SO Eur. Pat. Appl., 4 pp.
 CODEN: EPXXDW
 DT Patent
 LA French
 IC ICM A61K035-78
 CC 63-4 (Pharmaceuticals)
 Section cross-reference(s): 11

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|--------------|-----------------|--------------|
| PI | EP 330567 | A1 | 19890830 | EP 1989-400495 | 19890222 <-- |
| | EP 330567 | B1 | 19911023 | | |
| | R: AT, BE, CH, DE, ES, GB, GR, IT, LI, LU, NL, SE | | | | |
| | FR 2627387 | A1 | 19890825 | FR 1988-2227 | 19880224 <-- |
| | FR 2627387 | B1 | 19920605 | | |
| | US 4981688 | A | 19910101 | US 1989-313372 | 19890221 <-- |
| | AT 68701 | E | 19911115 | AT 1989-400495 | 19890222 <-- |
| | JP 01258626 | A2 | 19891016 | JP 1989-45027 | 19890223 <-- |
| PRAI | FR 1988-2227 | | 19880224 <-- | | |
| | EP 1989-400495 | | 19890222 <-- | | |

AB An extract is prepared of **Ginkgo biloba leaves**, usable as a drug for treatment of circulatory disturbances. The extract contains only low amts. of the toxic proanthrocyanidins. An aqueous acetone extract of **G. biloba leaves** was concentrated in vacuum. The precipitate was removed and supernatant was adjusted to pH 9 [Ca(OH)2], followed by **filtration** and acidification of the **filtrate** to pH 2. The **filtrate** was extracted with butanone-acetone (70:30) in the presence of (NH4)2SO4, followed by **filtration**, concentration of the **filtrate**, dissoln. of the residue in EtOH, **filtration**, and concentration, to give a product comprising 25.5% **flavone** glucosides and 6.6% quercetine + kaempferol.

ST Ginkgo ext circulatory disorder; **flavone** glucoside Ginkgo ext

IT **Ginkgo biloba**
 (extract, **flavone glycosides** from, as circulatory drug)

IT Cardiovascular agents
 (**flavone glycosides** from **Ginkgo biloba** extract as)

IT **Glycosides**
 RL: BIOL (Biological study)
 (**flavonoid**, oxo, **Ginkgo biloba** extract containing, as circulatory drug)

IT 117-39-5, Quercetine 520-18-3, Kaempferol
 RL: BIOL (Biological study)
 (**Ginkgo biloba** extract containing, as circulatory drug)

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 MOST RECENT DERWENT UPDATE: 200426 <200426/DW>
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<http://thomsonderwent.com/support/userguides/> <<<

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SDIS USING THE TIME RANGE CODE WILL NEED TO BE UPDATED.
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L83 ANSWER 1 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2004-099775 [11] WPIX
DNC C2004-041463
TI Compound medicine of **ginkgo leaf** extract and
dipyridamole and its preparation method.
DC B02 B04
IN ZHANG, Z
PA (ZHAN-I) ZHANG Z
CYC 1
PI CN 1454596 A 20031112 (200411)* A61K031-519
ADT CN 1454596 A CN 2003-137926 20030530
PRAI CN 2003-137926 20030530
IC ICM A61K031-519
ICS A61P007-02; A61P009-10
AB CN 1454596 A UPAB: 20040213
NOVELTY - The invention is a manufacturing method for vein medicament of
ginkgo leaves extraction materials and dipyridamole
compound. It is based on the stability of **ginkgo flavone**
in low viscosity aqueous solution is higher than in high thickness aqueous
solution, the **ginkgo leaves** extraction materials and
dipyridamole is dissolved at the same time, after the two are frozen and
dried into even solid, the stability of **ginkgo flavone**
is higher than the solid which is only frozen and dried from itself, and
produces the infusion agent and powder pin agent. The manufacturing
process doesn't use active carbon, but uses middle hole fiber film
filtering new technology to wipe off impurities, enhances the
quality of the product. The method is simple, convenient, and good
curative effect.
Dwg.0/0
FS CPI
FA AB
MC CPI: B04-A08C2; **B04-A10**; B06-D09; B14-F02

L83 ANSWER 2 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-683080 [65] WPIX
DNC C2003-187078
TI Therapeutic agent comprises **ginkgo leaf** extract as an
active ingredient for treating cerebral infarction and resulting
disorders, e.g. sensory disturbance.
DC B04
PA (MORI-I) MORIMASA T; (TOKI-N) TOKIWA SHOKUBUTSU KAGAKU KK
CYC 1
PI JP 2003095966 A 20030403 (200365)* 7p A61K035-78 <--
ADT JP 2003095966 A JP 2001-296314 20010927
PRAI JP 2001-296314 20010927

IC ICM **A61K035-78**
 ICS **A61K031-365**; **A61K031-7048**; **A61P025-28**
 AB JP2003095966 A UPAB: 20031009
 NOVELTY - Cerebral infarction therapeutic agent comprising **ginkgo leaf** extract as an active ingredient, is new.
 ACTIVITY - Cerebroprotective; Nootropic. No biological data given.
 MECHANISM OF ACTION - None given.
 USE - The extract is used for treating cerebral infarction and resulting disorders, e.g. consciousness disturbance, movement disorders, logopathy, aphasia, emotional disturbance, dyslogia, sensory disturbance, memory defects and abnormal postures (claimed).
 ADVANTAGE - The therapeutic agent is safe at the time of administering orally for a long period of time and effectively treats cerebral infarction in a patient.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: **B04-A08**; **B04-A10B**; B14-J01
 TECH UPTX: 20031009
 TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Composition: The extract contains 24-28 % of total **flavone glycoside**, 5.5-10 % of total **terpene lactone** and less than 1 parts per million (ppm) of **ginkgol-acid** content.
 ABEX UPTX: 20031009
 ADMINISTRATION - 50-3000 (100-2000) mg/kg of **ginkgo leaf** extract is administered orally.
 EXAMPLE - 1 kg of dried **ginkgo leaf** was ground, extracted with ethanol and **filtered** to obtain clean liquid. The liquid was concentrated at reduced pressure to remove active substances. The substance was washed with water and eluted by hydrated ethanol, to obtain 20 g of dried **ginkgo leaf** extract. The extract was found to have 6-8 % of **terpene lactone** content and 16-24 % of **flavone glycoside** content.
 L83 ANSWER 3 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 2003-495178 [47] WPIX
 DNC C2003-132635
 TI Preparation of medicinal **Ginkgo biloba** extracts, useful for e.g. treating hypertension or amnesia, comprises adsorbing organic or aqueous extract of plant **leaves** on phenol-containing resin and eluting with organic solvent.
 DC B04
 IN ALAQUI ISMAILI, S; GRANOLLERAS CASTELLO, A; RULL PROUS, S
 PA (COGN-N) COGNIS IBERIA SL
 CYC 26
 PI EP 1314433 A1 20030528 (200347)* DE 6p A61K035-78 <--
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
 RO SE SI TR
 ADT EP 1314433 A1 EP 2001-127914 20011123
 PRAI EP 2001-127914 20011123
 IC ICM **A61K035-78**
 AB EP 1314433 A UPAB: 20030723
 NOVELTY - Preparation of **Ginkgo biloba** extracts (I) comprises:
 (1) extracting the **leaves** with organic or aqueous organic solvents;
 (2) absorbing the **ginkgo flavonoids**, **ginkgolides** and **bilobalides** on resins; and
 (3) desorbing with organic solvents.
 The adsorbent is a phenol-containing resin.
 ACTIVITY - Antiinflammatory; Auditory; Nootropic; Antianginal; Dermatological; Analgesic; Hypotensive.

MECHANISM OF ACTION - None given.

USE - (I) are traditional Asian herbal medicaments effective e.g. against respiratory disorders, hearing deficiency, hypertension, amnesia, angina pectoris, skin rashes and gastric pain.

ADVANTAGE - The use of phenol-containing resin adsorbents markedly increases the yield of **ginkgo flavonoids**, **ginkgolides** and **bilobalides**, i.e. the three major classes of active agents in **Ginkgo biloba** extracts. (I) is almost completely free of (undesirable) **ginkgo acids**. (I) specifically contains at least 24 weight% **ginkgo flavonoids**, 2.0-8.0 weight% of each of **ginkgolides** and **bilobalides** and less than 10 ppm **ginkgo acids** (all claimed).

Dwg.0/0

FS

CPI

FA

AB; DCN

MC

CPI: B04-A08C1; **B04-A10**; B14-C01; B14-F01D; B14-F02B; B14-J01A4; B14-K01; B14-N04; B14-N17

TECH

UPTX: 20030723

TECHNOLOGY FOCUS - POLYMERS - Preferred Materials: The phenol-containing resin is Duolite S 761 (RTM).

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The process involves:

- (a) extracting the **leaves** of **Ginkgo biloba** with aqueous organic solvent (preferably aqueous acetone or methanol);
- (b) removing the organic solvent from the obtained first extract;
- (c) subjecting the obtained first concentrate to liquid-liquid extraction with an aliphatic hydrocarbon (preferably 5-7C alkane);
- (d) taking up the obtained second extract in an alcoholic solvent (preferably methanol or ethanol);
- (e) supplying the obtained alcoholic solution to a column packed with phenol-containing resin;
- (f) discarding the eluate and eluting the **flavonoids**, **ginkgolides** and **bilobalides** adsorbed on the column material with aqueous alcoholic solvent (preferably aqueous methanol); and
- (g) removing the organic solvent from the eluate and drying.

ABEX

UPTX: 20030723

EXAMPLE - Chopped **leaves** of **Ginkgo biloba**

(1000 g) was extracted at 20 degrees C with aqueous acetone (50/50) (50 l) for 6 hours. Acetone was removed from the obtained first extract, followed by **filtration** and liquid-liquid extraction with hexane (to remove **ginkgo acids**). The obtained second extract was treated with methanol to give an alcohol concentration of 20 weight%. The obtained methanolic solution was subjected to column chromatography on various resins, the absorbed active agents (i.e. **ginkgo flavonoids**, **ginkgolides** and **bilobalides**) being desorbed with 90 weight% aqueous methanol and the eluate being evaporated and dried. Using Duolite S-761 (RTM; phenol-containing resin) as adsorbent, the active agent content was 28% after elution and 25% in the final product. For comparison, using Purasorb AP250 (RTM) as adsorbent the active agent content was 15% after elution and 11% in the final product and using Macronet MN 150 (RTM) 24% after elution and 21% in the final product

L83 ANSWER 4 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-486260 [46] WPIX

CR 1995-228625 [30]

DNC C2003-130617

TI **Ginkgo** extract used as pharmaceutical and food additive, contains **flavone** glycoside, quercetin and salicylic acid derivatives.

DC B04

PA (DAIL) DAICEL CHEM IND LTD

CYC 1
PI JP 2003012528 A 20030115 (200346)* 13p A61K035-78 <--
ADT JP 2003012528 A Div ex JP 1993-307158 19931112, JP 2002-122968 19931112
PRAI JP 1993-307158 19931112; JP 2002-122968 19931112
IC ICM **A61K035-78**
ICS A23L001-30; A61K007-00; A61K007-48; A61P003-10; A61P009-00;
A61P009-10; A61P025-18; A61P025-28
AB JP2003012528 A UPAB: 20030719
NOVELTY - **Ginkgo** extract contains 15 weight% of at least one **flavone** glycoside, upto 0.02 weight% quercetin and upto 30 ppm salicylic acid derivatives.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for manufacture of the **ginkgo** extract which comprises extracting **ginkgo leaves** are extracted with aqueous solvent which contains 0-15 volume% alcohol. The obtained extract is treated with an adsorbent. The adsorbed components are eluted and the eluate is concentrated.
USE - Used as pharmaceuticals and additives for foodstuff such as confectionery e.g. candy, chocolate, gum, health drink and tea.
ADVANTAGE - The simple method produces highly safe **ginkgo** extract having low content of salicylic acid derivative and quercetin, at high yield. By concentrating the eluate in an inert gas atmosphere, quercetin and/or coloring component in the **ginkgo** extract can be reduced.
Dwg.0/1
FS CPI
FA AB; DCN
MC CPI: B04-A08C2; **B04-A09**; **B04-A10**; B06-A01;
B11-B; B14-E11
TECH UPTX: 20030719
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Product: **Ginkgo** extract comprises at least 15 (preferably at least) 30 wt.% **flavone** glycoside, upto 0.01 wt.% quercetin and upto 10 (preferably upto 1) ppm salicylic acid derivatives.
Preferred Process: The **ginkgo leaves** are extracted at a pH of above 9.5, preferably 10. The extract is processed with a hydrophobic synthetic resin absorbent in acidic conditions. The components adsorbed to the adsorbent are eluted by upto 55 vol.% aqueous alcohol solution. The eluate is adjusted to pH 6-8 and concentrated at upto 80degreesC in an inert gas atmosphere. The alcohol is 1-3C monohydric alcohol.
ABEX UPTX: 20030719
EXAMPLE - 2000 ml of water was added to 150 g of **ginkgo leaves**, extracted at 90degreesC for 3 hours and scum was collected by **filtration**. 1000 ml of water was added to the scum and extracted at 90degreesC for 1.5 hours and **filtered**. 15 g of celite was added to the **filtrate**, stirred and again **filtered**. 15 ml of Amberlite XAD-2000 (RTM: hydrophobic synthetic resin absorbent) was added and equilibrated with water. 440 ml of the **filtrate**, obtained by celite **filtration** was passed through a column at a space velocity of 2 hr-1 for adsorption. The column was washed with 75 ml of water and 75 ml of 20 volume% aqueous ethanol solution, then eluted with 75 ml of 40 volume% aqueous ethanol solution. The eluate was concentration dried at 40-50degreesC and 320 mg of **ginkgo** extract was obtained. The extract contained 17.8 weight% of **flavone** glycoside, 0.001 weight% of quercetin and 1 ppm of salicylic acid derivative.
L83 ANSWER 5 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-457342 [43] WPIX
DNC C2003-121721
TI Extraction of biological active compound from botanical material, e.g. ginseng, black cohosh or green tea, comprises mixing together a botanical

material, and a solution with at least one antioxidant.

DC B04 D13

IN GREENE, J B

PA (BRIG-N) BRIGHTWATER HORTICULTURE LTD

CYC 101

PI WO 2003037096 A1 20030508 (200343)* EN 12p A23F003-16

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU

MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT

RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA

ZM ZW

ADT WO 2003037096 A1 WO 2002-NZ230 20021031

PRAI NZ 2001-515182 20011031

IC ICM A23F003-16

ICS A23F003-18; C07B063-00; C07C039-19; C07C039-21; C07C057-42;

C07C059-52; C07G017-00

AB WO2003037096 A UPAB: 20030707

NOVELTY - Extraction of biologically active compounds from botanical material, comprises mixing together:

(1) a botanical material; and

(2) a solution containing at least one acid and at least one antioxidant.

The combination of acid and antioxidant prevents oxidative degradation of compounds in the mixture.

USE - The method is used for extracting biologically active compounds from botanical material (claimed).

ADVANTAGE - The combination of the acid and the antioxidant prevents, slows and/or halts oxidative degradation of compounds in the mixture. The solution prevents, slows and/or halts polyphenolic oxidative reaction in the mixture and reverses the polyphenolic oxidative reaction equilibrium.

The method prevents, slows or stops oxidative degeneration of the biologically active compounds and is cost-effective.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B03-F; B03-H; B04-A08; B04-A09; B04-A10

; B05-C05; B10-B02D; B10-C02; B10-C04; B10-E02; B11-B;

D03-H

TECH UPTX: 20030707

TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: The method further involves:

(1) disintegrating the botanical material;

(2) separating the liquid from the residue;

(3) drying the liquid extract to obtain a solid extract; and

(4) pressing the residual plant material to obtain a pressate, which is then combined with the liquid extract, **filtrate** and pressate drying.

The solution is added to the botanical material by spraying, dipping and/or pouring over. The mixing occurs immediately before harvest of the plant material. The disintegration occurs within less than 5 minutes (preferably less than 10 seconds) after mixing or simultaneously with mixing.

The separation is completed at any time between immediately or 7 days after mixing. The separation is by **filtration**, super critical fluid extraction, and/or mechanical dewatering (preferably **filtration**, and/or mechanical dewatering). The separation is completed by collecting a liquid extract as the retentate osmosis, collecting a liquid extract as retentate of **ultra-filtration**, and/or collecting a liquid extract as retentate.

The combination steps are conducted in the absence of oxygen. The method is performed in a nitrogen atmosphere. The phenolic level after extraction

is maintained at 50-100 (preferably 70-100)% as compared with the starting level, measured as dried extract.

Preferred Components: The botanical material is:

(1) Echinacea, **Ginkgo biloba**, kava kava, ginseng, black cohosh, green tea, St John's Wort (with hypercerin as an active), artichoke, chamomile, dong quai, grape seed, grape skins, hawthorn, hops, passion flower, pine bark, red clover, olive leaf, currants, and/or berries;

(2) leafy portion of plant, free of stems and branches and/or twigs; or

(3) by product or pressate of other plant processing/extraction steps or by product of seed extraction, super critical fluid extraction or by product of flower harvesting.

The plant material is prone to oxidative reactions that reduce the activity of the biologically active material.

The solution is food grade quality.

The botanical material is disintegrated fresh or frozen material. The

botanical material is disintegrated to 0.1 - 50 mm in length.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The solution is citric acid (0.5-30 weight.% (wt.%)), ascorbic acid (0.5-30 wt.%), cysteine, cinnamic acid, sulfur dioxide and/or vitamin E and water that has been deoxygenated and/or chilled to 1-4 degrees C. The solution includes hexylresorcinol.

The product is a mixture, extract, residue, or solid.

ABEX

UPTX: 20030707

EXAMPLE - Frozen E. purpurea (10 kg) were sprayed with citric acid (a) (33.3 mM) or a combination (b) of citric acid (33.3 mM)+ascorbic acid (50 mM). Water (19 l) was added to the mixture and allowed to stand with occasional stirring for about 2 hours. A water extraction method was used as a control. The plant slurry contained dry plant material (6.3%). The final pH of the extract was 3.6 - 4. The extracts were tested for extract yield and phenolic in extract.

The extract yield for water (control), (a) and (b) was 35, 46 and 60% respectively. The phenolic in extract (weight%) for water (control), (a), and (b) in caftaric/cichoric/total were 0.03/0.06/0.09, 0.9/1/1.9 and 1.6/3.4/4/9 respectively.

L83 ANSWER 6 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-451775 [43] WPIX

DNC C2003-120540

TI **Ginkgo leaf** extract useful in foodstuffs, cosmetics, pharmaceuticals etc., has preset absorbance in specific wavelength.

DC B04 D13 D21

PA (TAMA-N) TAMA SEIKAGAKU KK

CYC 1

PI JP 2003026533 A 20030129 (200343)* 6p A61K007-00

ADT JP 2003026533 A JP 2001-213945 20010713

PRAI JP 2001-213945 20010713

IC ICM A61K007-00

ICS A23L001-30; **A61K035-78**

AB JP2003026533 A UPAB: 20030707

NOVELTY - A **ginkgo leaf** extract has an absorbance of 0.04 % or less at 540 nm wavelength.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for preparation of **ginkgo leaf** extract which involves extracting **ginkgo leaf** using an inorganic coagulant/flocculant

USE - Useful in foodstuffs, cosmetics, health drinks, pharmaceuticals, etc.

ADVANTAGE - The **ginkgo leaf** extract exhibiting improved color tone and aqueous solubility is effectively utilized in foodstuffs, cosmetics, health drinks and pharmaceuticals.

Dwg.0/1

FS CPI

FA AB; DCN

MC CPI: B04-A08C2; B04-A09A; B04-A10B; B11-B;
B12-M07; D03-H01F; D03-H01T2; D08-B

TECH UPTX: 20030707

TECHNOLOGY FOCUS - BIOLOGY - Preferred Method: Preparation of **ginkgo leaf** extract involves treating **ginkgo leaves** with inorganic coagulant/flocculant followed by purifying with hydrophobic suction/adsorption resin.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Component: The inorganic coagulant/flocculant is aluminum sulfate and slaked lime.

ABEX UPTX: 20030707

EXAMPLE - Dried **ginkgo leaves** (500 g) were ground to 5-10 mm size and extracted with 20 volume% (volume%) acetone (5 l), for 2 hours, to obtain an extract (3 l). Subsequently, the residue were extracted twice with 20 volume% acetone, to obtain extract (13 l). The obtained extracts were distilled under normal pressure, the distillate was mixed with 23 volume% acetone and treated with hexane (0.5 l). The aqueous layer was further distilled with the solvent. The distilled residue was cooled and **filtered**. The **filtrate** was mixed with slaked lime (4 g) and water to form a slurry. The slurry was adjusted to pH 5, mixed with aluminum sulfate (0.7 g) and sedimented, to obtain a dark brown condensate and a supernatant pale yellow color liquid. The condensate was separated by **filtration**. The **filtrate** was passed through a porous hydrophobic resin column and eluted with 20 volume% ethanol. The eluate was then spray dried, to obtain yellow powdered **ginkgo leaf** extract (15 g). The powder contained 24 % of **flavone** glycoside and 9 % of terpenes, and had color tone of 0.0237 at 540 nm.

L83 ANSWER 7 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-439090 [41] WPIX

CR 2003-221652 [21]

DNC C2003-116261

TI Method of isolating terpene **trilactones** useful in the treatment of e.g. dementia, comprises suspending **Ginkgo biloba** plant material in an oxidation reagent or water, followed by extraction and separation.

DC B05

IN BERGER, J; BEROVA, N; LICHTBLAU, D; NAKANISHI, K

PA (UYCO) UNIV COLUMBIA NEW YORK

CYC 1

PI US 2003031736 A1 20030213 (200341)* 17p C07D311-78

US 6590109 B2 20030708 (200353) C07D307-93

ADT US 2003031736 A1 CIP of US 2001-903049 20010711, US 2002-194089 20020711;

US 6590109 B2 CIP of US 2001-903049 20010711, US 2002-194089 20020711

PRAI US 2002-194089 20020711; US 2001-903049 20010711

IC ICM C07D307-93; C07D311-78

ICS A61K035-78; C07D407-14; C07D498-14

AB US2003031736 A UPAB: 20030820

NOVELTY - Method of isolating terpene **trilactones** (I) from **Ginkgo biloba** plant material or extract comprises:

(a) suspending the plant material or extract in either an oxidation reagent (a1) or water;

(b) extracting the terpene **trilactones** with an agent (b1);
and

(c) separating the organic layer containing (I) from the aqueous layer.

ACTIVITY - Nootropic; Cerebroprotective; Auditory; Vasotropic; Antiasthmatic.

MECHANISM OF ACTION - Platelet Activating Factor Inhibitor.

USE - For the isolation of terpene **trilactones** (claimed), which is useful in the treatment of dementia, cerebral insufficiency,

polyuria and tinitus; for improving blood flow; vaso-protection; radical scavenging; as food supplement and energy pills; homeopathic uses; juices; cosmetics; various tea preparations; for increasing short-term memory; and as antiasthmatic.

ADVANTAGE - The terpene **trilactones** are obtained in high purity and high yield (more than 50 weight%). The process is simple reducing the extraction period from several days to one day and gives high recovery (at least 10 fold higher) than the prior art. The purification by reverse phase chromatography reduces unwanted levels of **ginkgolic acid**.

Dwg.0/7

FS CPI

FA AB; DCN

MC CPI: B04-A08C2; **B04-A10B**; B06-A03; **B11-B**; B14-F02;

B14-J01A4; B14-K01A; B14-L06; B14-N02; B14-N16; B14-S08

TECH UPTX: 20030630

TECHNOLOGY FOCUS - BIOLOGY - Preferred Process: The method additionally involves:

(A) two washing steps to wash the organic layer with an aqueous salt or hydroxide solution (S1). (S1) used in both the washing steps are different;

(B) destroying excess (a1) in the organic layer by treating with a catalyst;

(C) drying the organic layer;

(D) recrystallizing the resulting dried extract; and

(E) purifying the isolated (I) by reversed phase chromatography.

In step (A) the pH of the suspended plant material or extract is adjusted to pH of 4-6.5 by addition of an acid (a2) and then the suspended plant material or extract is heated for 5 minutes - 5 hours.

In step (A) if the plant material or extract is suspended in water, then step (C) is performed by addition of sodium chloride to the emulsion containing organic and aqueous layers.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: (b1) is lower acetate, lower ketone, lower ether, lower alcohol and benzene.

(a2) used in the aqueous solution of (a1) is acetic acid.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: (a1) (preferably hydrogen peroxide) is in aqueous solution.

The aqueous solution contains 0.1-50 (preferably 0.1-15) % of (a1).

The aqueous solution additionally comprises (%): (a2) (0.1-15) selected from hydrochloric acid, nitric acid, phosphoric acid and sulfuric acid.

(S1) is an aqueous alkali salt solution selected from ammonium chloride, sodium carbonate, sodium bicarbonate, potassium carbonate, sodium hydroxide, potassium hydroxide, sodium thiosulfate, sodium sulfite and sodium hydrosulfide (preferably either sodium thiosulfate, sodium sulfite and sodium hydrosulfide or sodium hydroxide and potassium hydroxide).

(S1) has a pH of 7-14 (preferably 7.5-9.5).

ABEX UPTX: 20030630

EXAMPLE - Dried **leaves** (250 g) of **Ginkgo**

biloba were suspended in hydrogen peroxide (5%, 2l) and boiled for 1 hour. The suspension was **filtered** and the **filtrate**

was then extracted with 2 portions of ethyl acetate (250 ml and 125 ml).

The organic layer was washed with saturated aqueous (aqueous) sodium carbonate solution, saturated (aqueous) sodium sulfite solution, water and sodium chloride solution sequentially. The organic layer was dried over sodium sulfate to give powder (830 mg) containing terpene **trilactone** (52%).

L83 ANSWER 8 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-221652 [21] WPIX

CR 2003-439090 [41]

DNC C2003-056419

TI Isolation of terpene **trilactones** from **Ginkgo**

biloba plant material involves suspending the plant material in the presence of an oxidation reagent, extracting, and separating the organic layer from the aqueous layer.

DC B02 B04

IN BERGER, J; BEROVA, N; LITCHBLAU, D A; NAKANISHI, K

PA (UYCO) UNIV COLUMBIA NEW YORK

CYC 100

PI WO 2003006040 A1 20030123 (200321)* EN 45p A61K035-78 <--

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
ZW

ADT WO 2003006040 A1 WO 2002-US22101 20020711

PRAI US 2001-903049 20010711

IC ICM A61K035-78

ICS C07D307-77

AB WO2003006040 A UPAB: 20030630

NOVELTY - Isolation of terpene **trilactones** from **Ginkgo biloba** plant material or extract involves:

(a) suspending the plant material or extract in the presence of an oxidation reagent;

(b) extracting the terpene **trilactones** using an extraction agent; and

(c) separating the organic layer from the aqueous layer to isolate the terpene **trilactones** in the organic layer.

USE - To prepare terpene **trilactones** (claimed)

ADVANTAGE - The method is simple extraction procedure for producing a terpene **trilactones** concentration that is 10-fold higher. The method can be produced on industrial scale. The method is efficient and economical and provides the extraordinary stability, despite the presence of multiple oxygen functions, of the terpene **trilactones** structure to a variety of chemical treatments, especially oxidation. The method reduces the level of **ginkgolic acid** to an amount of less than 10 ppm.

Dwg.2/7

FS CPI

FA AB; GI; DCN

MC CPI: B04-A08C2; B04-A10; B06-A03

TECH UPTX: 20030328

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Method: The method further involves at least a first and a second washing step to wash the organic layer with an aqueous salt or hydroxide solution; destroying excess oxidation reagent in the organic layer by contacting the organic layer with a metal or a non-metal catalyst; drying the organic layer to form an extract containing terpene **trilactones**; and recrystallizing the extract to obtain terpene **trilactones** in higher purity. The second washing step is performed with a solution that is different from the solution used in the first washing step. The extract contains terpene **trilactones** (more than 50 wt.%). The method also further involves heating or boiling the suspended plant material or extract in aqueous solution for 5 minutes - 5 hours; and adjusting the pH of the suspended plant material or extract in aqueous solution to 4 - 6.5. The isolated terpene **trilactones** can also purified by reverse phase chromatography.

Preferred Components: The extraction agent is lower acetate, lower ketone, lower ether, lower alcohol or benzene.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The oxidation reagent is in aqueous solution. The oxidation reagent is hydrogen peroxide. The aqueous solution comprises (%) oxidation reagent

(0.1 - 50, preferably 0.1 - 30, especially 3 - 5) and further comprises an acid (0.1 - 15 %) selected from acetic acid, hydrochloric acid, nitric acid, phosphoric acid or sulfuric acid. A solution of salt or hydroxide is an aqueous alkali salt solution or is ammonium chloride, sodium carbonate, sodium bicarbonate, potassium carbonate, sodium hydroxide, potassium hydroxide, sodium thiosulfate, sodium sulfite and sodium hydrosulfide (preferably sodium thiosulfate, sodium sulfite or sodium hydrosulfide). The aqueous alkali salt or hydroxide solution has a pH of 7 - 14 (preferably 7.5 - 9.5, especially 8.3 - 9.3) and is an aqueous solution of hydroxide solution selected from sodium hydroxide solution and potassium hydroxide solution.

ABEX

UPTX: 20030328

EXAMPLE - Pharmaceutical extract powder from **Ginkgo biloba** (25 g) was suspended in 5 % hydrogen peroxide aqueous solution (500 ml), containing additional 1 % of sulfuric acid and boiled for 15 minutes. The suspension was **filtered**, cooled to room temperature, the **filtrate** was extracted first with ethyl acetate (250 ml) and then with ethyl acetate (125 ml). The organic layer was separated and washed with saturated aqueous solution of sodium bicarbonate, a saturated aqueous solution of sodium sulfite, water and sodium chloride solution. The organic layer was dried over sodium sulfate and the solvent removed to obtain terpene **trilactone** (70 %).

L83 ANSWER 9 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-154274 [15] WPIX

DNC C2003-039898

TI Extract of **ginkgo biloba leaves** having antibacterial activity contains specified amount of **flavone** glycosides, terpene **lactones** and **ginkgolic acid** with water, alcohol and heptane.

DC B04 C03

IN LEE, I H

PA (JEON-I) JEONG H D; (LEEI-I) LEE I H

CYC 1

PI KR 2002070598 A 20020910 (200315)*

A01N065-00

ADT KR 2002070598 A KR 2001-10760 20010302

PRAI KR 2001-10760 20010302

IC ICM A01N065-00

AB KR2002070598 A UPAB: 20030303

NOVELTY - Extract of **Ginkgo biloba leaves** contains specified amount of **flavone** glycosides, terpene **lactones** and **ginkgolic acid** with water, alcohol and heptane.

DETAILED DESCRIPTION - Preparation of an extract of **Ginkgo biloba leaves** with a specified amount of **flavone** glycosides, terpene **lactones** and **ginkgolic acid** with water, alcohol and heptane comprises addition of about 10 to 500 parts by weight of distilled water or an organic solvent to 100 parts by weight of **leaves** of **Ginkgo biloba**. The liquid is **filtered** or centrifuged, or extracted in a solution of ethanol or methanol and n-heptane, and distilled under reduced pressure of 0.8 multiply 103 Pa to 1 multiply 102 Pa. Thus the obtained extract contains 2 to 5% by weight of **flavone** glycosides, 0.01 to 1% by weight of terpene **lactones** and 3 to 30% by weight of **ginkgolic acid**.

ACTIVITY - Antibacterial; Insect Repellent; Antiviral.

MECHANISM OF ACTION - None given.

ADVANTAGE - Harmless to human body.

Dwg.0/0

FS CPI

FA AB

MC CPI: **B04-A08; B04-A10B; B04-B01B; B04-C02; B04-D02; B10-E04D; B10-J02; C04-A08; C04-A10B; C04-B01B;**

C04-C02; C04-D02; C10-E04D; C10-J02

L83 ANSWER 10 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-048850 [05] WPIX
DNC C2003-012709
TI New process for preparing **Ginkgo biloba** leaf
extract for treatment of cerebral and peripheral vascular disorders,
neurodegenerative disorders, and proliferative disorders.

DC B04
IN TENG, B P; TENG, B
PA (SCRC) SCRAS SOC CONSEILS RECH & APPL SCI
CYC 101
PI FR 2823116 A1 20021011 (200305)* 15p A61K035-78 <--
WO 2002083158 A1 20021024 (200305) FR A61K035-78 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
ZW
EP 1379262 A1 20040114 (200410) FR A61K035-78 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR
KR 2003087068 A 20031112 (200420) A61K035-78 <--
ADT FR 2823116 A1 FR 2001-4942 20010410; WO 2002083158 A1 WO 2002-FR1219
20020409; EP 1379262 A1 EP 2002-761922 20020409, WO 2002-FR1219 20020409;
KR 2003087068 A KR 2003-713205 20031009
FDT EP 1379262 A1 Based on WO 2002083158
PRAI FR 2001-4942 20010410
IC ICM **A61K035-78**
ICS A61P009-00; A61P025-00; A61P025-28; A61P035-00
AB FR 2823116 A UPAB: 20030121
NOVELTY - Preparing an extract from **leaves of Ginkgo biloba** containing at least 50 % **flavone-glycosides** and 12 % **terpene-lactones**.
DETAILED DESCRIPTION - Preparing an extract from **leaves of Ginkgo biloba** containing at least 50 % **flavone-glycosides** and 12 % **terpene-lactones** comprising the following steps:
(1) extracting the dry powdered **leaves** with ethanol containing at most 20% by weight of water;
(2) concentrating the extract under reduced pressure in the presence of aqueous sodium chloride and eliminating the dark oil from the remainder of the clear solution;
(3) washing the solution by liquid-liquid extraction using n-hexane, n-heptane or cyclohexane;
(4) liquid-liquid extraction of the aqueous phase with ethyl acetate; and
(5) washing the ethyl acetate extract sodium chloride solution and evaporation.
ACTIVITY - Nootropic; Neuroprotective; Anticonvulsant; Antiparkinsonian; Cytostatic.
No biological data given.
MECHANISM OF ACTION - None given in source material.
USE - The new process is useful for preparing **Ginkgo biloba leaf** extract (claimed), which is used for the treatment of cerebral and peripheral vascular disorders and neurodegenerative disorders, such as Alzheimer's, Parkinson's, Huntington's, and amyotrophic lateral sclerosis, and treatment of proliferative disorders such as cancers.
ADVANTAGE - The extraction process gives a purer product than known methods and is more suitable for industrial application.

Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B04-A08C2; B04-A10B; B11-B; B14-F02; B14-H01;
B14-J01A; B14-S01
TECH UPTX: 20030121
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: Preferably the process contains the additional final step of dissolving the dried extract in ethanol, cooling the solution, **filtering** the salt that may be precipitated and evaporating to dryness.
ABEX UPTX: 20030121
ADMINISTRATION - The extracts may be given topically, orally, parenterally, intramuscularly or by other routes at a daily dose of 5 - 150 mg, preferably 10 - 100mg.
EXAMPLE - The new method was carried out as follows. Crushed **Ginkgo biloba leaves** (100 g) were extracted twice at 60degreesC using 800ml + 600ml of a 88 % solution of aqueous ethanol. The mixture was **filtered** and the extract and washing combined and evaporated to 100 ml. An aqueous sodium chloride solution (10 %, 350 ml) was added and the mixture evaporated at 50degreesC to eliminate residual ethanol. The resultant product was separated by decantation and **filtration** through celite to eliminate a dark oil. The resultant solution was washed with n-heptane (2 x 150 ml) then extracted with ethyl acetate (2 x 150 ml). The ethyl acetate solution was washed with saturated sodium chloride solution and evaporated to dryness. The extract was redissolved in ethanol (60 ml), left overnight at 5degreesC, **filtered** and evaporated to give an extract (1.42 g) containing 51.7 % **flavone glycosides** and 13 % **terpene lactones** (6.55 % **bilobalide**). In vitro test details are described but no results are given.

L83 ANSWER 11 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2002-269156 [31] WPIX
DNC C2002-079884
TI Heat- and storage-stable, sterile, injectable solution of **flavone** -containing plant extract comprising solution of the extract in acidified aqueous alcohol, useful for treating cerebral insufficiency.
DC B02 B04
IN HERRMANN, J; OSCHMANN, R; STUMPF, H; THOELE, M
PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**
CYC 97
PI WO 2002013869 A2 20020221 (200231)* DE 12p A61K047-10
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DK DM
DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
DE 10040610 A1 20020307 (200231) A61K035-78 <--
AU 2001081717 A 20020225 (200245) A61K047-10
EP 1309353 A2 20030514 (200333) DE A61K047-10
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR
KR 2003020390 A 20030308 (200345) A61K009-107
CN 1447698 A 20031008 (200403) A61K047-10
ADT WO 2002013869 A2 WO 2001-DE2871 20010724; DE 10040610 A1 DE 2000-10040610
20000816; AU 2001081717 A AU 2001-81717 20010724; EP 1309353 A2 EP
2001-960130 20010724; WO 2001-DE2871 20010724; KR 2003020390 A KR
2003-700900 20030121; CN 1447698 A CN 2001-814176 20010724
FDT AU 2001081717 A Based on WO 2002013869; EP 1309353 A2 Based on WO
2002013869
PRAI DE 2000-10040610 20000816
IC ICM A61K009-107; A61K035-78; A61K047-10

ICS A61K047-26

AB WO 200213869 A UPAB: 20020516

NOVELTY - A sterile, injectable solution (A) of a **flavone** -containing plant extract (I) comprises: (I) dissolved in aqueous alcohol having an alcohol content of 2-40 (preferably 10-25) weight % and a pH of 2-6 (preferably 3-4).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) an injectable medicament comprising (A) and a sterile buffer salt solution (B), where (A) and (B) are prepared separately, stored in separate containers and mixed before administration;

(2) the preparation of (A) by dissolving (I) in aqueous alcohol, adjusting the pH and heat-sterilizing; and

(3) the preparation of the medicaments (1), by preparing (A) as in (2), preparing (B), storing (A) and (B) in separate containers and mixing (A) and (B) before use.

ACTIVITY - Cerebroprotective; Vasotropic; Cardiant.

MECHANISM OF ACTION - None given.

USE - (I) are e.g. **Ginkgo** extracts for treating cerebral insufficiency, Aesculus extracts for treating venous disorders or Crataegus extracts for treating cardiac insufficiency.

ADVANTAGE - (A) have high storage- and heat-stability with respect to the active agent content; specifically the active agent content is reduced by not more than 10 weight % on heat sterilization or storage for 12 months under standard conditions (all claimed). Stable formulations are obtained without complicated or expensive procedures such as lyophilization.

Dwg. 0/0

FS CPI

FA AB; DCN

MC CPI: B04-A08C2; **B04-A10**; B05-A01B; B05-B02A3; B05-C07; B06-A01; B12-M07; B14-F01; B14-F02; B14-J01

TECH UPTX: 20020516

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Components: The alcohol is ethanol and/or propylene glycol. The pH of (A) is adjusted with acid, preferably hydrochloric acid. (I) is an extract of **Ginkgo biloba**, Aesculus sp. and/or Crataegus sp., preferably obtained from the **leaves** and/or blossom. (B) is phosphoric acid/sodium phosphate buffer, preferably containing isotonic agent(s) (specifically sodium chloride and/or sugar alcohols). (A) and/or (B) may contain ascorbic acid and/or other additive(s).

ABEX UPTX: 20020516

ADMINISTRATION - (A) is administered by injection, after mixing with (B).

EXAMPLE - A solution comprised **Ginkgo** extract (0.916 weight%), sorbitol (4.985 weight%), ethanol (96%) (19.940 weight%), 1N hydrochloric acid (0.474 weight%) and water (73.685 weight%) for injection. Preparation involved dissolving the sorbitol in 90% of the water, adding the ethanol followed by the extract under stirring, adjusting the pH to 3.0 using the hydrochloric acid and adding the remainder of the water. After sterile **filtration** using a 0.22 microns membrane **filter**, the solution was filled in ampoules under sterile nitrogen and steam-sterilized for 15 minutes at 121 degrees C. After cooling, the clear and free of sediment. The reduction in active agent contents during sterilization was 2.0% for **flavone** glycosides and 3.8% for terpene **lactones**. Before use, 2 ml of the solution was mixed with 2 ml of a suitable buffer to give pH 6.8.

L83 ANSWER 12 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2002-122384 [16] WPIX

DNC C2002-037539

TI Preparation of composition comprising Chinese herbs, is used for preventing or treating cardiovascular or cerebrovascular diseases, capable of delaying aging or regulating bodily immune function including remedies for asthma.

DC B04

IN PAN, Y; WU, M; ZHAO, X

PA (ZHAO-I) ZHAO X

CYC 96

PI WO 2002000234 A1 20020103 (200216)* ZH 23p A61K035-78 <--
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
 NL OA PT SD SE SL SZ TR TZ UG ZW
 W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
 DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
 SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001077446 A 20020108 (200235) A61K035-78 <--

ADT WO 2002000234 A1 WO 2001-CN1061 20010626; AU 2001077446 A AU 2001-77446
 20010626

FDT AU 2001077446 A Based on WO 2002000234

PRAI CN 2000-109461 20000626

IC ICM A61K035-78

ICS A61K035-80; A61P009-00; A61P037-02; A61P043-00

AB WO 200200234 A UPAB: 20020308

NOVELTY - A drug preparation for preventing or treating cardiovascular or cerebrovascular diseases, delay of aging or regulating bodily immune function, comprises (pts.weight) **Ginkgo biloba leaf extract** (8-24, particularly 10, especially 16), **Astragalus membranaceus extract** (12-36, particularly 30, especially 24) and **Spirulina extract** (30-90, particularly 60, especially 50).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(i) a method for producing the drug preparation comprising mixing all the three raw materials together; and

(ii) the use of the **Ginkgo biloba** and **Astragalus membranaceus** extracts and **Spirulina** is for producing drugs for preventing or treating cardiovascular and cerebrovascular diseases, and for delaying aging and regulating bodily immune function.

ACTIVITY - Cardiant; antidiabetic; antiasthmatic; antiallergic.

No biological data given.

MECHANISM OF ACTION - None given.

USE - The preparations are for preventing or treating cardiovascular and cerebrovascular diseases, capable of delaying aging and regulating bodily immune function including as remedies for asthma, allergy, diabetes or hair loss.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B04-A08; B04-A09; B04-A10; B14-F01;

B14-G02A; B14-G03; B14-K01A; B14-R02; B14-S04

TECH UPTX: 20020308

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Drugs: The drug preparations preferably contain not less than 24% **flavones** of **Ginkgo biloba** and not less than 6% **bilobalide** from **Ginkgo biloba** extract, and not less than 0.1% **baicalein A** from **Astragalus membranaceus**. Preferred Methods: The **Ginkgo biloba leaf extract** obtained by refluxing dried and pulverized **leaves** by evaporating off ethanol from the extract for adsorption on large-bore adsorption resin (e.g. D-100 type) and with ethanol for elution, recovering ethanol and drying the distillate. Such extract has not less than 24% **flavones** of **Ginkgo biloba** and not less than 6% **bilobalide**. The **Ginkgo biloba leaf extract** can also be prepared by boiling dried and powdered **leaves** to 20 mesh with 10 to 50-fold an aqueous solution containing 1-2% antioxidant (thrice) each for 1-2 hrs, combining the aqueous extracts for passing through a polyamide column (at column height to wide ratio of 4-15), with 3-fold water for percolation and 60-90% ethanol for elution, concentration, extracting with n-hexane twice, and concentrating and drying to give total **flavones** of **Ginkgo biloba**.

The aqueous solution of antioxidant is particularly aqueous 0.5 % sodium pyrosulfite. The polyamide column height to wide ratio is especially 4, with 70% ethanol for eluting the column.

The Astragalus membranaceus extract is obtained by chopping the crude drug into pieces for boiling with 15 to 30-fold water thrice, each time for 0.5-2 hrs., combining the extracts, **filtering** and applying the **filtrate** for adsorption on an adsorption resin (D1-101 type) column, elution with 40-90% ethanol, recovery of ethanol, and drying the distillate. Such extract contains not more than 0.1% baicalein A (C44H68O4).

ABEX UPTX: 20020308

ADMINISTRATION - Administration is particularly oral, e.g. taking capsules at 0.75 g daily.

EXAMPLE - The drug preparations were formulated from **Ginkgo biloba leaf** extract (10 kg), Astragalus membranaceus extract (30 kg) and Spirulina (60 kg) for granulation then packed into capsules at 0.25 g each.

Such preparation was given to mice and rats for studying its effect on regulating immune system and delaying aging, and on patients with cardiovascular and cerebrovascular diseases.

L83 ANSWER 13 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2002-091748 [13] WPIX

DNC C2002-028527

TI Water-soluble complex useful as chemical, pharmaceutical and clinical agent comprises an extract of **Ginkgo biloba leaves** with N-methylglucamine.

DC B04

IN PARACCHINI, S

PA (LINN-N) LINNEA SA

CYC 28

PI EP 1163908 A1 20011219 (200213)* EN 10p A61K035-78 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

AU 2001043768 A 20011220 (200213) A61K035-78 <--

US 2002012713 A1 20020131 (200216) A61K035-78 <--

JP 2002047191 A 20020212 (200227) 5p A61K035-78 <--

US 6447819 B2 20020910 (200263) A01N065-00

ADT EP 1163908 A1 EP 2000-202088 20000616; AU 2001043768 A AU 2001-43768
20010508; US 2002012713 A1 US 2001-853695 20010514; JP 2002047191 A JP
2001-153883 20010523; US 6447819 B2 US 2001-853695 20010514

PRAI EP 2000-202088 20000616

IC ICM A01N065-00; **A61K035-78**

ICS A61K031-343; A61K031-70; A61K031-7008; A61K047-48; A61P009-00;
A61P025-02; A61P025-14; B01D011-02

AB EP 1163908 A UPAB: 20020226

NOVELTY - A water - soluble complex of N-methylglucamine with an extract of **Ginkgo biloba (leaves)**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for preparing the water-soluble complex involving

- (a) adding N-methylglucamine to an alcoholic solution of the extract;
- (b) **filtering** the obtained solid product; and
- (c) followed by removing the solvent.

USE - As chemical, pharmaceutical and clinical agent.

ADVANTAGE - The complex is rich in **flavonoids** and has a low content of other components. The complex has a water solubility of about 1 - 30 (preferably 3 - 10) w/v.%.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B04-A08C2; **B04-A10B**; B10-B03B

TECH UPTX: 20020226

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Complex: The complex comprises (w/w.%): **flavone glycoside** (15 - 30); **ginkgolides** (0.1 - 7), **bilobalide** (0 - 2), **proanthocyanidins** (1 - 2), **N-methylglucamine** (32 - 34) and water-soluble inert plant matter (25 - 51.9). The extract of **Ginkgo biloba** (leaves) comprises (w/w.%): **flavone glycosides** (22 - 45), **ginkgolides** (0.1 - 12), **bilobalide** (0.01 - 5) and **proanthocyanidins** (3 - 8). Preferred Method: The amount of the extract in step (a) is equal to about 1.5 - 3 times (preferably twice) the weight of the N-methylglucamine.

ABEX

UPTX: 20020226

EXAMPLE - A **Ginkgo biloba** (leaf) extract containing (w/w.%): **flavone glycoside** (38.17), **Ginkgolide** (4.3), **bilobalide** (0.28) and **proanthocyanidin** (3.22) was prepared. A solution of the extract in methanol (849 ml) was stirred till the solid extract had fully dissolved. N-methylglucamine (28 g) dissolved in water (10 ml) was added to the solution. The mixture was stirred for 5 minutes and **filtered**. The resulting solution was concentrated under reduced pressure and at not more than 50degreesC. The resulting solid residue was ground and dried under reduced pressure and at not more than 70degreesC. A complex of N-methylglucamine with **Ginkgo biloba** leaf extract (94%) was thus obtained as brown-yellow product, having a solubility of 1% in distilled water with a pH of 7.8.

L83 ANSWER 14 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-535460 [59] WPIX

DNC C2001-159426

TI New external preparation useful for skin comprises extract of particular plant.

DC B03 B04 D21 D22

IN HIGUCHI, Y; HOSHINO, T; MORIYAMA, M; SAKATA, O

PA (KOSE-N) KOSE CORP; (KOSE-N) KOSE KK; (SHIR-N) SHIRATORI SEKIYAKU KK;
(SHIR-N) SHIRATORI PHARM CO LTD; (HIGU-I) HIGUCHI Y; (HOSH-I) HOSHINO T;
(MORI-I) MORIYAMA M; (SAKA-I) SAKATA O

CYC 4

PI US 2001014311 A1 20010816 (200159)* 12p A61K007-42

JP 2001181170 A 20010703 (200159) 10p A61K007-48

CN 1301543 A 20010704 (200161) A61K035-78 <--

JP 2001220340 A 20010814 (200161) 10p A61K007-48

KR 2001057585 A 20010704 (200206) A61K035-78 <--

US 6352685 B2 20020305 (200224) A61K007-42

ADT US 2001014311 A1 US 2000-740859 20001222; JP 2001181170 A JP 1999-367587

19991224; CN 1301543 A CN 2000-131090 20001223; JP 2001220340 A JP

2000-29348 20000207; KR 2001057585 A KR 2000-80382 20001222; US 6352685 B2

US 2000-740859 20001222

PRAI JP 2000-29348 20000207; JP 1999-367587 19991224

IC ICM A61K007-42; A61K007-48; A61K035-78

ICS A01N037-02; A61K006-00; A61K007-00; A61P017-00

AB US2001014311 A UPAB: 20011012

NOVELTY - An external preparation comprising an extract of *Pueraria mirifica*, is new.

USE - For anti-aging and whitening of skin and to perform specified drug effect in cosmetics and medical external preparations such as milk lotions, creams, lotions, packs, detergents, dispersion solutions, ointments, liquids for external use and makeup cosmetics.

ADVANTAGE - Since the extract is obtained from a high safety plant extract having high melanin formation inhibition the external preparation has better whitening or anti-aging effect.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B01-A01; B03-L; B04-A08; B04-A09; B04-A10

; B05-A03; B06-A01; B07-A02B; B10-A07; B10-C04B; B10-E02; B10-E04C;
B10-F02; B14-N17; D08-B09A; D09-E

TECH

UPTX: 20011012

TECHNOLOGY FOCUS - BIOLOGY - Preferred Components: The external preparation for whitening additionally comprises at least one active ingredient (a) selected from a whitening agent, an anti-oxidant, an anti-inflammatory agent or an ultraviolet-ray shielding ingredient, or at least one active ingredient (b) for anti-aging selected from a cell activation agent, an anti-oxidant, a humectant or an ultraviolet-ray shielding ingredient. The whitening agent is placenta extract, licorice extract, coix seed extract, scutellaria root extract or seaweed extract. The antioxidant of (a) is ginseng extract, balm mint extract or Alnus firma Siebold. et. Zucc. extract. The anti-inflammation agent is aloe extract, beefsteak plant extract, mugwort extract or matricaria extract. The cell activation agent is placenta extract, yeast extract, apricot extract, plant extract including AHA such as lime extract and raspberry extract, asparagus extract, almond extract, soybean extract, centella extract, tomato extract, malt root extract or seaweed extract. The antioxidant of (b) is **gingko** extract, plant extract including **flavonoid** such as scutellaria root extract and balm mint extract, a saxifrage extract, Siberian ginseng extract, a ginseng extract or Alnus firma Siebold. et Zucc. extract. The humectant is sweet hydrangea **leaf** extract, aloe extract, cactus extract, coltsfoot extract or quince seed extract.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The whitening agent is vitamin C, its derivatives or salts. The antioxidant of (a) is vitamin E, its derivatives or salts. The anti-inflammation agent is glycyrrhizinic acid, glycyrrhetic acid, their derivatives or salts. The ultraviolet ray shielding ingredient of (a) and (b) is 2-ethylhexyl para-methoxy cinnamate, oxybenzone or 4-tert-butyl-4'-methoxydibenzoylmethane. The cell activation agent is vitamin A, vitamin C, their derivatives or salts or estradiol. The anti-oxidant of (b) is vitamin B, vitamin E, their derivatives or salts, dibutylhydroxytoluene, dibutyl hydroxyanisole, mannitol, carotenoid such as asteroxanthine, quercetin or quercitol. The humectant is amino acid, its derivatives or salts, glycerol or 1,3-butylene glycol.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The ultraviolet ray shielding ingredient of (a) and (b) is titanium oxide, micronized particle titanium oxide or zinc oxide.

TECHNOLOGY FOCUS - POLYMERS - Preferred Component: The humectant is mucopolysaccharide, its derivatives or salts or phospholipid or its derivatives.

ABEX

UPTX: 20011012

EXAMPLE - Each 100 ml of purified water (a), 50 % ethanol solution (b) and ethyl alcohol (c) was added to dried root lumps (10 g) of Pueraria mirifica. The mixtures were extracted for 3 days under room temperature and **filtered** to obtain dried solids of (a), (b) and (c) in 4.2, 2.1 and 1.2 %, respectively. For comparison, ethanol having water content of 70 %, by volume (100 ml) was added to coix seed (10 g) and the mixture was extracted 3 days at room temperature, **filtered** and dried to obtain a comparative coix seed extract (d) (0.8 %). A test for inhibition for melanin formation was conducted by using B16 melanoma cultured cell of mouse origin. The cell was inoculated in a culture medium and stored at 37 degrees C under 5 % carbon dioxide concentration. Next morning (a), (b), (c) and (d) were added separately to the culture medium. The concentration of each extract was 300, 500 and 1000 micro-g/ml and the culture mediums were mixed. The mediums were exchanged after incubation of 5 days. Next morning the culture mediums were eliminated and the cell was retrieved after washing with phosphoric acid buffer solution. Similarly (d) was tested for whitening effect. The whitening effect for (a)/(b)/(c)/(d) at 300, 500 and 1000 micro-g/ml was whitelittle/whitelittle/whitelittle/black

, whitelittle/whitelittle/whitelittle/black and obviously white/ obviously white/ obviously white/none given, respectively. Thus (a), (b) and (c) had high inhibition ability for melanin formation.

L83 ANSWER 15 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-503340 [56] WPIX

DNC C2001-151420

TI A process for preparing **gingko** injection.

DC B04

IN SHAO, B; ZHOU, J

PA (SHAN-N) SHANGHAI INST CHINESE MEDICAL MATERIALS

CYC 1

PI CN 1298738 A 20010613 (200156)* 1p A61K035-78 <--

ADT CN 1298738 A CN 1999-124228 19991209

PRAI CN 1999-124228 19991209

IC ICM **A61K035-78**

ICS A61K009-08

AB CN 1298738 A UPAB: 20011001

NOVELTY - Preparation of **gingko** injection comprises adding antioxidant and metal ion complexing agent, regulating pH value, **ultrafiltration**, and introducing inert gas, etc. so as to solve the problems of unstability of **gingko** injection liquid, with easy color change and precipitation.

ADVANTAGE - The invented method is simple in operation and reliable in quality.

Dwg.0/0

FS CPI

FA AB

MC CPI: B11-B; B12-M05

L83 ANSWER 16 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-403076 [35] WPIX

DNC C2000-122385

TI Manufacture of **ginkgo leaf** extract involves crushing and extracting **ginkgo leaf** with dimethyl ether, recovering **filtrate**, concentrating and adding electrolyte, desalinating and separating insoluble fraction.

DC B04 D13

PA (ASAH) ASahi KASEI KOGYO KK

CYC 1

PI JP 2000128792 A 20000509 (200035)* 6p A61K035-78 <--

ADT JP 2000128792 A JP 1998-299238 19981021

PRAI JP 1998-299238 19981021

IC ICM **A61K035-78**

ICS A23L001-30; A61P009-00

AB JP2000128792 A UPAB: 20000725

NOVELTY - **Ginkgo leaf** is crushed and extracted with dimethyl ether. Extraction residue is separated and **filtrate** is recovered. Ether in extract is evaporated and precipitate formed is separated. Recovered aqueous extraction **filtrate** is concentrated and an electrolyte is added to it. The insoluble fraction is desalinated, separated and powder extract is formed by drying after removing solvent.

DETAILED DESCRIPTION - The **ginkgo leaf** is crushed and extracted with water containing dimethyl ether. The extract with extraction residue is separated and the extraction **filtrate** is recovered. The dimethyl ether in the extract is evaporated using an aqueous extract and forms a precipitate, since the hydrophobic material is settled in the extraction **filtrate**. The aqueous extract having precipitated is separated and aqueous extraction **filtrate** is recovered which is concentrated, an electrolyte is added and the active ingredient is settled. The insoluble fraction is recovered, dissolved again and desalinated with water containing dimethyl ether. The insoluble matter is separated and the powder extract is recovered by drying after

removal of solvent.

USE - The extract is useful as a cosmetic material in pharmaceuticals and foodstuffs.

ADVANTAGE - Highly safe **ginkgo leaf** extract is manufactured and the process is economical.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B04-A10B; B11-B; B14-R01; D03-H

TECH UPTX: 20000725

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: The water containing dimethyl ether contains 7-60 w/w%, preferably 2-7 w/w% of moisture contents. 5-20 times of water containing dimethyl ether is contained per 1 weight (dry weight) of **ginkgo leaf**. The aqueous extraction **filtrate** is concentrated until it contains 10-20% of solid substance. 30-60 w/v% of concentration of ammonium sulfate is additionally added for concentrated aqueous extraction **filtrate**.

Preferred Process: The extraction process is carried out at 10-30degreesC under the extraction pressure of 0.2-0.8 MPas.

Preferred Electrolyte: The electrolyte is sulfate of metal or ammonium, chloride or nitrate, preferably ammonium sulfate.

ABEX UPTX: 20000725

EXAMPLE - (In grams) Dried and ground **ginkgo leaves** (100) and water (400) were supplied to 3L bomb, stirred at 30degreesC for 30 min, extracted with dimethyl ether (DME) without water (600), **filtered** by sintering metal and **filtrate** was supplied to another bomb. The DME in **filtrate** was evaporated at 10degreesC under atmospheric pressure for 30 min. Aqueous extract was pressure **filtered** by membrane **filter**, having diameter of 142 mm. Precipitate was removed, recovered **filtrate** (400) was concentrated to 150 ml in vacuum by evaporator. Ammonium sulfate (90) was added, stirred with concentrated liquid for 1 hour at room temperature. Precipitate was ripened and solution was separated. Precipitate was suspended by water (10) and were supplied to bomb. DME (190) was supplied and stirred at 30degreesC for 30 min. Precipitate in suspension was **filtered**, separated and **filtrate** was supplied to another bomb. DME in liquid was evaporated at 10degreesC under atm.pr for 30 min. The remained aqueous solution was dried for a day at room temperature by lyophilization. **Ginkgo leaf** extract powder (2) was obtained. The analysis value of extract was 1 ppm or less in 24% of **flavone** glycoside contents, 6% of terpene **lactone** contents, 10 ppm or less of **ginkgo acid** contents and DME contents.

L83 ANSWER 17 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-256854 [22] WPIX

DNC C2000-078428

TI New plant-derived antipollution complex for use in cosmetic or pharmaceutical compositions, useful e.g. for protecting skin or hair against effects of atmospheric pollution, solar radiation or weathering.

DC B04 D21

IN ARMENGOL SEGURA, R; BENAIGES BENAIGES, M

PA (PROV-N) PROVITAL SA

CYC 88

PI WO 2000013693 A2 20000316 (200022)* ES 25p A61K035-00

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SL SZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT UA UG US UZ VN YU ZA ZW

ES 2141687 A1 20000316 (200028)

A61K007-40

AU 9957476 A 20000327 (200032) A61K035-00
 ES 2141687 B1 20001101 (200066) A61K007-40
 ADT WO 2000013693 A2 WO 1999-ES286 19990906; ES 2141687 A1 ES 1998-1886
 19980907; AU 9957476 A AU 1999-57476 19990906; ES 2141687 B1 ES 1998-1886
 19980907
 FDT AU 9957476 A Based on WO 2000013693
 PRAI ES 1998-1886 19980907
 IC ICM A61K007-40; A61K035-00
 ICS A61K007-06; A61K007-48; **A61K035-78**; A61P017-00
 AB WO 200013693 A UPAB: 20000508
 NOVELTY - A new antipollution complex (I) comprises:
 (a) a fruit extract containing sugars and polysaccharides;
 (b) a liquid phase derived from a plant extract containing sapogenins
 and/or **flavonoids**; and
 (c) a liquid phase derived from a cereal and/or vegetable plant
 extract containing dicarboxylic acids, hydroxyacids, polyphosphoric acids,
 aminoacids, peptides, proteins and porphyrins.
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the
 preparation of (I).
 ACTIVITY - Cytoprotective; dermatological.
 A complex (I) (no description given) at 250 mu g/ml gave 40%
 protection of liposomes against heavy metal-induced lipid peroxidation.
 MECHANISM OF ACTION - Antioxidant; antiradical; heavy metal
 sequestrant.
 USE - (I) has antioxidant, detoxifying, cell membrane protecting
 and/or stabilizing, anticytotoxic and moisturizing activity. Component (a)
 protects and/or stabilizes cell membranes of the skin against the effect
 of external harmful agents; (b) has antioxidant and anti-free radical
 action; and (c) has heavy metal sequestering and detoxifying action. (I)
 is used in pharmaceutical or cosmetic compositions (claimed) for
 protecting the skin, hair, mucosa and respiratory tract against the
 harmful effects of atmospheric pollution, solar UV radiation and
 weathering.
 ADVANTAGE - (I) is effective against a wide range of harmful factors
 and agents, and can be used in a wide range of formulations.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: **B04-A07E**; **B04-A10**; B04-C02; B04-D01; B04-N04;
 B05-B02A3; B06-D18; B10-B02; B10-C02; B10-C04D; B14-K01; B14-M01D;
 B14-R01; B14-R02; B14-R05; B14-S08; D08-B03; D08-B09A
 TECH UPTX: 20000508
 TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Components: (a) is derived
 from e.g. apples, pears, oranges, bitter oranges and/or lemons, and
 contains pectins. (b) is derived from e.g. Indian chestnut seeds, Centella
 entera, ginseng root, Eleutherococcus root, thistle fruit, **ginkgo**
leaves, Rutaceae fruit, primrose flowers and/or whitethorn
 flowers. (c) is derived from wheat and/or barley extract, and contains
 inositol hexaphosphate as active agent.
 Preparation: Preparation of (I) involves: (1) preparing component (a) by
 washing the fruit with deionized water, crushing, removing juices,
 extracting the pulp at 60-100degreesC and pH 1.5-3, optionally
 concentrating, **filtering** and/or centrifuging the acidic extract
 and stirring the extract at below 60degreesC and pH below 4; (2) preparing
 component (b) by comminuting the plant materials, extracting by maceration
 with aqueous alcohol (containing 50-70 wt. % ethanol) at a plant/solvent
 ratio of 1:2-2.5 and not more than 50degreesC for 24 hours, separating the
 liquid extract, repeating the extraction step, combining the extracts and
filtering to give a clear, transparent solution of pH ca. 5; (3)
 adding component (b) to component (a) with stirring at pH below
 60degreesC; (4) preparing component (b) by washing the cereals and/or
 vegetables at below 65degreesC, comminuting to give a flour, extracting by
 maceration with a weakly acidic aqueous solvent and **filtering**

the extract to give a transparent solution; (5) adding component (c) to the mixture of (a) and (b) with stirring at below 40degreesC; and (6) stirring the mixture until completely homogeneous and neutralizing.

ABEX UPTX: 20000508

ADMINISTRATION - (I) is typically formulated in bath gel, liquid soap, shampoo, conditioning shampoo, hair tonic, after-shave, sunscreen cream or milk, facial tonic, moisturizing cream, gel, make-up or spray compositions at concentrations of 1-5%.

EXAMPLE - No specific example of the preparation or composition of a plant-derived complex is given; the only preparative example is a general procedure. A shampoo contained 42.1 % water, 0.5% preservative, 4.0% cocoamidopropyl betaine (30%), 5.0% cocoamidopropyl amine oxide (30%), 17.0 % sodium lauryl ether sulfosuccinate (30%), 1.3% cocoamido MEA, 12.0% sodium 14-16C olefinsulfonate (37%), 15% water, 0.1% lactic acid, 0.5 % sodium chloride, 0.5 % perfume and 2.0 % antipollution vegetable complex (no details given).

L83 ANSWER 18 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-117739 [11] WPIX

DNC C2000-036253

TI Water-soluble dry plant extracts, useful in medicines, cosmetics or dietetic foods.

DC B04 D13 D21

IN GRETHLEIN, E; OSCHMANN, R; ERDELMEIER, C; STUMPF, K; SUDECK, A

PA (SCHW-N) SCHWABE GMBH & CO WILLMAR

CYC 23

PI DE 19829516 A1 20000105 (200011)* 7p A23L001-221

WO 2000001397 A1 20000113 (200011) DE A61K035-78 <--

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: AU CA JP US

AU 9954069 A 20000124 (200027) A61K035-78 <--

EP 1089748 A1 20010411 (200121) DE A61K035-78 <--

R: AT BE CH DE ES FR GB IT LI NL

AU 745660 B 20020328 (200235) A61K035-78 <--

JP 2002519383 W 20020702 (200246) 20p A61K035-78 <--

EP 1089748 B1 20030604 (200344) DE A61K035-78 <--

R: AT BE CH DE ES FR GB IT LI NL

DE 59905853 G 20030710 (200347) A61K035-78 <--

ADT DE 19829516 A1 DE 1998-19829516 19980702; WO 2000001397 A1

WO 1999-DE1812 19990619; AU 9954069 A AU 1999-54069 19990619; EP

1089748 A1 EP 1999-939923 19990619, WO 1999-DE1812 19990619; AU

745660 B AU 1999-54069 19990619; JP 2002519383 W WO 1999-DE1812

19990619, JP 2000-557843 19990619; EP 1089748 B1 EP 1999-939923

19990619, WO 1999-DE1812 19990619; DE 59905853 G DE 1999-505853

19990619, EP 1999-939923 19990619, WO 1999-DE1812 19990619

FDT AU 9954069 A Based on WO 2000001397; EP 1089748 A1 Based on WO 2000001397;

AU 745660 B Previous Publ. AU 9954069, Based on WO 2000001397; JP

2002519383 W Based on WO 2000001397; EP 1089748 B1 Based on WO 2000001397;

DE 59905853 G Based on EP 1089748, Based on WO 2000001397

PRAI DE 1998-19829516 19980702

IC ICM A23L001-221; A61K035-78

ICS A23L001-00; A23L001-30; A61K007-00; A61K007-48; A61K031-365

; A61K031-70; A61K031-7048

AB DE 19829516 A UPAB: 20000301

NOVELTY - New water-soluble, native dry extracts (I) of plant parts, especially *Ginkgo biloba* leaves, consist entirely of contents of the plant parts and are free from solubilizers and galenic auxiliaries.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for the preparation of (I).

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - (I) are used for the preparation of medicines, cosmetics and/or dietetic foods (all claimed). No details of specific applications are given.

ADVANTAGE - (I) is completely water-soluble; has a high content of the relevant active components (specifically terpenoids and **flavone glycosides** in the case of **Ginkgo biloba** leaf extracts); is free of additives (which could cause problems such as complexing and inhibition of release of **ginkgolides**); can be prepared simply and inexpensively; and specifically may have higher percentage content of terpene **lactones** and **flavone glycosides** than the crude drug (claimed).

Dwg.0/1

FS CPI

FA AB; DCN

MC CPI: **B04-A10B**; B06-A01; B14-E12; B14-R01; D03-H01T2; D08-B

TECH UPTX: 20000301

TECHNOLOGY FOCUS - PHARMACEUTICALS - Preferred Extract: (I) is:

(i) a dried primary extract (crude extract);
(ii) a dry extract which has been partially purified by removal of extraction solvents and components which precipitate from aqueous solution in the cold; or

(iii) a dry extract which has been purified as in (b) and further purified by removal of unwanted components by precipitation reactions, adsorption and desorption, extraction with butanol or other purification methods.

Specifically (I) contains (by weight) at least 20 % **flavone glycosides**, at least 5 % terpene **lactones** and at most 5 ppm

ginkgolic acids; or at least 22-27 % **flavone glycosides**,

at least 5-7 % terpene **lactones**, at least 2.8-3.4 %

ginkgolides A, B and C, at least 2.6-3.2% **bilobalides**

and at most 5 ppm **ginkgolic acids**.

Preparation: Claimed preparation of (I) involves:

(a) preparing a liquid aqueous alcoholic extract or dry extract by conventional methods;

(b) taking up the extract (if dry) in water and/or organic solvent, preferably in aqueous alcohol;

(c) subjecting the (preferably aqueous alcoholic) extract solution to **ultrafiltration** through a **filter** having an average pore size of 2000-10000 Daltons; and

(d) separating the organic solvent(s) and optionally drying the **ultrafiltrate**.

Preferably stage (a) involves obtaining a crude extract by extracting the plant parts with aqueous alcohol or aqueous ketone, removing the extraction solvent, removing unwanted (specifically lipophilic) components by precipitation using addition of water and cooling, and further purifying to remove unwanted components and enrich the desired components (by precipitation reactions, adsorption and desorption, extraction with butanol or other purification methods), removing the solvent(s) and drying.

ABEX UPTX: 20000301

EXAMPLE - 4.65 g of **Ginkgo biloba** EGb dry extract was adjusted to 10 % solution with 50 weight % ethanol and subjected to **ultrafiltration** using a polyamide membrane with a pore size of 5000 Daltons. The retentate was further washed with 60 weight % ethanol 96 x 30 ml). The **filtrate** was concentrated and dried overnight at 45 degreesC and below 50 mbar. 3.47 g (74.62,%) of **filtrate** and 1.18 g (25.38,%) of retentate were obtained. The dry extract contained 6.3,% total terpene **lactones**, 24.05,% **flavone glycosides** and less than 5 ppm **ginkgolic acids**; and dissolved completely in water to give a clear 0.1,% solution which remained non-turbid on standing for 2 hours.

AN 2000-116727 [10] WPIX
DNC C2000-035698
TI Extraction method for isolating compounds from vegetable material with
therapeutic and cosmetic properties .
DC B04 D21
IN RUIJTEN, H M
PA (XENO-N) XENOBIOSIS
CYC 85
PI WO 9965504 A1 19991223 (200010)* EN 11p A61K035-78 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SL SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
UA UG US UZ VN YU ZW
NL 1009437 C2 19991221 (200012) A61K035-78 <--
AU 9946576 A 20000105 (200024) A61K035-78 <--
EP 1087780 A1 20010404 (200120) EN A61K035-78 <--
R: AT BE CH DE DK ES FI FR GB IT LI PT SE
KR 2001052992 A 20010625 (200173) A61K035-78 <--
CN 1310624 A 20010829 (200176) A61K035-78 <--
JP 2002518337 W 20020625 (200243) 15p A61K035-78 <--
EP 1087780 B1 20040303 (200417) EN A61K035-78 <--
R: AT BE CH DE DK ES FI FR GB IT LI PT SE
DE 69915290 E 20040408 (200425) A61K035-78 <--
ADT WO 9965504 A1 WO 1999-NL379 19990618; NL 1009437 C2 NL 1998-1009437
19980618; AU 9946576 A AU 1999-46576 19990618; EP 1087780 A1 EP
1999-929944 19990618; WO 1999-NL379 19990618; KR 2001052992 A KR
2000-714387 20001218; CN 1310624 A CN 1999-808894 19990618; JP 2002518337
W WO 1999-NL379 19990618; JP 2000-554383 19990618; EP 1087780 B1 EP
1999-929944 19990618; WO 1999-NL379 19990618; DE 69915290 E DE 1999-615290
19990618; EP 1999-929944 19990618; WO 1999-NL379 19990618
FDT AU 9946576 A Based on WO 9965504; EP 1087780 A1 Based on WO 9965504; JP
2002518337 W Based on WO 9965504; EP 1087780 B1 Based on WO 9965504; DE
69915290 E Based on EP 1087780, Based on WO 9965504
PRAI NL 1998-1009437 19980618
IC ICM A61K035-78
ICS A61K007-00; A61K007-48; A61K031-35; A61K031-48; B01D011-00;
B01D011-02
AB WO 9965504 A UPAB: 20000228
NOVELTY - Extracting a compound (I) from vegetable material (II)
comprising treatment of (II) with a liquified gas, especially liquid
nitrogen, to reduce its size prior to extraction with a solvent and
removal of the solid matter from the solvent containing (I) is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for
pharmaceutical (III) and cosmetic (IV) compositions comprising (I)
obtained by the new method.
USE - The method is useful for extraction of water soluble actives
from vegetable material, especially from the **ginkgo** tree or
Huperzia serrata, to obtain (III) and (IV), useful for the treatment of
e.g. Alzheimer's disease and patients with symptoms caused by prolonged
contact with organic chemicals, and for maintaining the suppleness of the
skin respectively.
ADVANTAGE - As the method employs fresh herbs and a shortened
extraction time, the yield of the active agents is improved.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B04-A08; B04-A09; B04-A10; B14-J01A4;
B14-R01; D08-B09
TECH UPTX: 20000228
TECHNOLOGY FOCUS - BIOLOGY - Preferred Vegetable Material: (II) is
preferably fresh **leaves** obtained from **Ginkgo**

biloba (the **ginko** tree) or **Huperzia serrata**.

Ginko material is selected from a 1-15, preferably 5-year old tree.

Preferred Method: After reduction of the size of (II), (II) may be treated with enzymes to enhance breakdown of the cell walls. The solvent used is preferably water with a pH of 4-7 and extraction is performed for a maximum of 3 hours at a temperature of 10-60degreesC, preferably 20-40degreesC. The extract obtained is preferably subjected to **microfiltration**, and sprayed or freeze dried. Optionally the initial solvent is removed and the residue extracted with a further solvent.

ABEX

UPTX: 20000228

ADMINISTRATION - (III) can be administered orally or parenterally.

EXAMPLE - **Ginko leaves** (10 g) were treated with liquid nitrogen (3 ml) within 72 hours of being picked. The frozen leaves were crushed using a porcelain mortar and water added (100 ml) with 1:1000% w/v of Ultrazyme AFP-L and Cellubrix L. The mixture was incubated for 2 hours at 50degreesC at a pH of 5.5 and subsequently extracted at a pH of 4-5. The liquid, containing **ginkolides** and **flavonoids** as active components, was **filtered** over a large-mesh **filter** to separate the solid matter and then subjected to **microfiltration** using a 0.2 mum hydrophilic **filter** and subsequently freeze-dried. Samples were reconstituted and extracted (x2) with MIK or t-butyl ether and the solvent removed. The residues were analysed using HPLC and found to contain a mixture of Biobalide, **Ginkolide** A and B, Quercetin, Kaempferol and Isorametine. It was noted that the extraction with organic solvents improves the purity of the product, t-butyl ether was useful in providing a higher yield of **ginkolides** in relation to **flavonoids**

L83 ANSWER 20 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-372169 [32] WPIX

DNC C1999-110040

TI **Ginkgo biloba** leaf extract - for production of medicament with less side effects.

DC B04

IN SCHWABE, K

PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**

CYC 22

PI DE 19756848 A1 19990701 (199932)* 4p A61K035-78 <--

WO 9932129 A1 19990701 (199933) DE

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: CN JP KR US

EP 1037646 A1 20000927 (200048) DE A61K035-78 <--

R: DE FR GB IT

KR 2000063097 A 20001025 (200124) A61K035-78 <--

CN 1282252 A 20010131 (200131) A61K035-78 <--

JP 2001526235 W 20011218 (200203) 14p A61K035-78 <--

US 6328999 B1 20011211 (200204) A61K035-78 <--

EP 1037646 B1 20020904 (200266) DE A61K035-78 <--

R: DE FR GB IT

DE 59805452 G 20021010 (200269) A61K035-78 <--

DE 19756848 C2 20030116 (200305) A61K035-78 <--

ADT DE 19756848 A1 DE 1997-19756848 19971219; WO 9932129 A1 WO 1998-DE3790

19981218; EP 1037646 A1 EP 1998-966583 19981218, WO 1998-DE3790 19981218;

KR 2000063097 A KR 2000-32649 20000614; CN 1282252 A CN 1998-812437

19981218; JP 2001526235 W WO 1998-DE3790 19981218, JP 2000-525120

19981218; US 6328999 B1 WO 1998-DE3790 19981218, US 2000-555235 20000525;

EP 1037646 B1 EP 1998-966583 19981218, WO 1998-DE3790 19981218; DE

59805452 G DE 1998-505452 19981218, EP 1998-966583 19981218, WO

1998-DE3790 19981218; DE 19756848 C2 DE 1997-19756848 19971219

FDT EP 1037646 A1 Based on WO 9932129; JP 2001526235 W Based on WO 9932129; US

6328999 B1 Based on WO 9932129; EP 1037646 B1 Based on WO 9932129; DE 59805452 G Based on EP 1037646, Based on WO 9932129

PRAI DE 1997-19756848 19971219

IC ICM **A61K035-78**
ICS A01N065-00; A61P009-00; A61P009-10; A61P009-14; A61P025-00; A61P043-00

AB DE 19756848 A UPAB: 20010528
NOVELTY - An extract (I) from the **leaves of Ginkgo biloba** comprises (in weight%): flavonol glycoside (20-30); **ginkgolide A, B, C and J** (2.5-4.5); **bilobalid** (2.0-4.0); alkyl phenol (at less than 10 ppm); proanthocyanidine (less than 10); 4'-O-methylpyridoxin (less than 50 ppm); and biflavone (less than 100 ppm). DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a medicament comprising (I).
USE - For production of medicament.
ADVANTAGE - (I) Comprises little 4'-O-methylpyridoxin and biflavones, which can become toxic and cause side effects.
Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: **B04-A10B**

L83 ANSWER 21 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1999-347614 [29] WPIX
DNC C1999-102325
TI Producing **Ginkgo biloba** extract from **leaves**.
DC B04
IN CHANG, M; COOPER, R; YU, Z; ZHANG, D C
PA (PHAR-N) PHARMANEX INC
CYC 83
PI WO 9926643 A1 19990603 (199929)* EN 29p A61K035-78 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
UG UZ VN YU ZW
AU 9919022 A 19990615 (199944) A61K035-78 <--
EP 1033994 A1 20000913 (200046) EN A61K035-78 <--
R: AT BE DE DK ES FI FR GB IE IT NL PT SE
US 6174531 B1 20010116 (200106) A61K035-78 <--
JP 2003514761 W 20030422 (200336) 31p A61K035-78 <--

ADT WO 9926643 A1 WO 1998-US25165 19981123; AU 9919022 A AU 1999-19022 19981123; EP 1033994 A1 EP 1998-963768 19981123, WO 1998-US25165 19981123; US 6174531 B1 Provisional US 1997-66867P 19971125, US 1998-198100 19981123; JP 2003514761 W WO 1998-US25165 19981123, JP 2000-521845 19981123

FDT AU 9919022 A Based on WO 9926643; EP 1033994 A1 Based on WO 9926643; JP 2003514761 W Based on WO 9926643

PRAI US 1997-66867P 19971125; US 1998-198100 19981123

IC ICM **A61K035-78**
ICS A01N043-04; **A61K031-365**; A61K031-70; A61K031-7048; A61P043-00

AB WO 9926643 A UPAB: 19990723
NOVELTY - A process for the production of an extract from **leaves** from **Ginkgo biloba**, comprises:
(a) collecting green **Ginkgo biloba** **leaves** during the months of August to October;
(b) extracting at least one **lactone** and at least one **flavone** glycoside from the **leaves**; and
(c) combining the **lactone** and the **flavone** glycoside.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) an extract obtained as described above;
 - (2) a pharmaceutical composition comprising (1) and a carrier;
 - (3) a dietary supplement comprising (1) and a carrier;
 - (4) a process for the production of an extract from **leaves** from **Ginkgo biloba**, the process comprising:
 - (a) extracting at least one **lactone** and at least one **flavone** glycoside from the **leaves** using column chromatography, and
 - (b) combining the at least one **lactone** and the at least one **flavone** glycoside to form an extract, wherein the extract contains less than about 5 ppm of alkylphenol compounds.
- USE - The process is used for the production of an extract from **leaves** from **Ginkgo biloba**.

ADVANTAGE - The process uses another effective source for the production of **Ginkgo biloba**.

Dwg.0/1

FS CPI

FA AB; DCN

MC CPI: B04-A07E; B04-A10B

TECH UPTX: 19990723

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred materials: The **leaves** are collected during the months of August to September. The **Ginkgo biloba** trees are from the Shandong province of China. The **leaves** are obtained from **Ginkgo biloba** trees that are about 3-5 years of age. Prior to step (b), the **leaves** are extracted in an alcohol solution to form a crude extract from which the at least one **flavone** glycoside and the at least one **lactone** are extracted. The crude extract comprises at least 3 weight % of the **flavone** glycoside. The crude extract is **filtered**, concentrated and subsequently diluted, water-insoluble lipophilic components are subsequently removed from the **filtered** and concentrated crude extract, and the **lactone** and the **flavone** glycoside are subsequently extracted by column chromatography. The column chromatography is carried out using a column packed with 14-30 or 30-60 mesh polyamide. The percentage of alcohol in the eluent ranges from about 5-75%. The **lactone** is recovered from the alcohol eluent with an ethyl acetate solution and the ethyl acetate is subsequently removed using an ethyl alcohol solution. The process further comprises the step (d) of removing alkylphenol compounds from the combined at least one **lactone** and the at least one **flavone** glycoside to a residual content of less than about 5 ppm of **ginkgolic** acids. The extract comprises a plurality of **lactones** and a plurality of **flavone** glycosides. The **lactones** comprise **ginkgolide A**, **ginkgolide B** and **ginkgolide C**, and are combined the **flavone** glycosides and the **lactones** to form an extract comprising about 22-27 wt.% **flavone** glycosides and about 5-7 wt.% **lactones**. The concentrated crude extract has a density of about 1.20-1.25 g/cm³. The diluted extract is precipitated for about 24-48 hours at about room temperature. Lipophilic components are removed by centrifugation. Column chromatography is carried out using a column packed with 14-30 or 30-60 mesh polyamide or with a macroporous hydrophobic resin.

ABEX UPTX: 19990723

EXAMPLE - None given.

L83 ANSWER 22 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-302641 [25] WPIX

DNC C1999-088744

TI Clear herbal extract solution useful for encapsulation in a soft gelatin capsule.

DC A11 A25 A96 B04

IN LIN, J; OPPENHEIM, R C; TRUONG, H C

PA (SCHB) SCHERER HOLDINGS PTY LTD R P
CYC 83
PI WO 9920289 A1 19990429 (199925)* EN 29p A61K035-78 <--
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
UG US UZ VN YU ZW
AU 9896162 A 19990510 (199938) A61K035-78 <--
ADT WO 9920289 A1 WO 1998-AU878 19981022; AU 9896162 A AU 1998-96162 19981022
FDT AU 9896162 A Based on WO 9920289
PRAI AU 1997-9903 19971022
IC ICM **A61K035-78**
ICS A61K009-08; A61K009-48
AB WO 9920289 A UPAB: 19990630
NOVELTY - A clear herbal extract solution suitable for encapsulation in a soft gelatin capsule, which comprises:
(i) a concentrated herbal extract (which is unsuitable by itself for direct encapsulation in a soft gelatin capsule); and
(ii) a fill liquid, which is compatible with the herbal extract and is specific for dissolving the herbal extract to form a clear solution.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(i) a soft gelatin capsule containing a clear herbal solution; and
(ii) a process for manufacturing a clear soft gelatin capsule, which comprises:
(1) combining a concentrated herbal extract and a fill liquid which is compatible with the herbal extract; and
(2) encapsulating the herbal extract in a soft gelatin capsule.
USE - The clear herbal extract solution is suitable for encapsulation in a soft gelatin capsule.
ADVANTAGE - It is possible to produce clear herbal extracts that are suitable for encapsulation in soft gelatin capsules and which also contain all the important active ingredients.

FS CPI
FA AB; DCN
MC CPI: A03-C01; A12-V01; **B04-A10**; B04-B01C1; B04-C03D
TECH UPTX: 19990630
TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Materials: The concentrated herbal extract is preferably obtained by a cold pressing or extraction process and is a liquid or semisolid material. In particular, the concentrated herbal extract is extracted with a hydrophilic solvent (e.g. water, ethanol, methanol, acetone, ethyl acetate, glycerol, diethyl ether and/or propylene glycol). The fill liquid is hydrophilic, especially a polyethylene glycol having a molecular weight of from 300-8000, or a mixture of a polyethylene glycol with at least 1 other polyol (e.g. propylene glycol, glycerol or another polyethylene glycol, e.g. Macrogol 400) with a molecular weight 50-8000. The herbal extract is preferably globe artichoke, **Ginkgo biloba**, turmeric, soy **isoflavone**, hypericum, ginseng, Echinacea angustifolia, dong quai, black cohosh, epilobium, zizyphus and olive **leaf**. Alternatively, the concentrated herbal extract may be extracted with a hydrophobic solvent or cold pressing process. The hydrophobic solvent is an aliphatic hydrocarbon (especially hexane), an aromatic hydrocarbon (especially benzene or toluene) and/or liquid carbon dioxide. The fill liquid is then hydrophobic and selected from a vegetable oil, a vegetable oil derivative or a medium chain triglyceride. The vegetable oil is selected from almond oil, arachis oil, borage oil, canola oil, evening primrose oil, fractionated coconut oil, lecithin, linseed oil, maize oil, olive oil, rapeseed oil, rice bran oil, safflower oil, soya bean oil, spearmint oil, sunflower oil and/or wheat germ oil. The herbal extract is then selected from ginger and saw palmetto. The carrier material is selected from

maltodextrin, dried glucose syrup or dicalcium phosphate. The shell of the capsule is either transparent, or colored to provide a clear colored shell. The capsule contains 1-1000 mg of active herbal extract. The concentrated herbal extract is selected from a concentrated extract of: *Achillea millefolium* (yarrow) herb, *Agropyron repens* (couch grass) root, *Althaea officinalis* (marshmallow) root, *Angelica polymorpha* (dong quai) root, *Apium graveolens* (celery) seed, *Arctium lappa* (burdock) root, *Arctostaphylos uva-ursi* (uva-ursi) **leaf**, *Armoracia rusticana* (horse radish) root, *Artemisia annua* (Chinese wormwood) herb, *Astragalus membranaceus* (milk vetch) root, *Avena sativa* (oats) herb, *Barosma betulina* (buchu) **leaf**, *Berberis vulgaris* (barberry) root, *Boswellia serrata* (olibanum) gum oleoresin, *Calendula officinalis* (marigold) flower, *Camellia sinensis* (green tea) **leaf**, *Cassia senna* (senna) fruit, *Caulophyllum thalictroides* (blue cohosh) root, *Centaurium erythraea* (centaury) herb, *Centelia asiatica* (gotu kola) herb, *Chelidonium majus* (greater celandine) herb, *Cimicifuga racemosa* (black cohosh) root, *Cola nitida* (kola) cotyledon, *Crataegus laevigata* (hawthorn) herb, *Crataegus monogyna* (hawthorn) herb, *Curcuma longa* (turmeric) rhizome, *Cynara scolymus* (globe artichoke) **leaf**, *Dioscorea villosa* (wild yam) root, *Echinacea angustifolia* root and rhizome, *Echinacea purpurea* (Echinacea) herb, root and rhizome, *Eleutherococcus senticosus* (Siberian ginseng) root, *Epilobium parviflorum* (small leafed willow) herb, *Equisetum arvense* (horsetail) herb, *Eschscholtzia californica* (Californian poppy) flower, *Eupatorium perfoliatum* (boneset) herb, *Euphorbia hirta* (Euphorbia) herb, *Euphrasia officinalis* (eyebright) herb, *Filipendula ulmaria* (meadowsweet) herb, *Fucus vesiculosus* (kelp) herb, *Galium aparine* (clivers) herb, *Garcinia quaesita* (Garcinia) fruit, *Gentiana lutea* (Gentian) root and rhizome, **Ginkgo biloba** (maidenhair tree) **leaf**, *Glycine max* (soya bean) seed, *Glycyrrhiza glabra* (liquorice) root, *Grindelia robusta* (grindelia) herb, *Hamamelis virginiana* (Hamamelis) **leaf**, *Harpagophytum procumbens* (devil's claw) root, *Humulus lupulus* (hops) fruit, *Hydrangea arborescens* (wild Hydrangea) flower, *Hydrastis canadensis* (golden seal) root, *Hypericum perforatum* (St John's Wort) herb, *Ilex paraguariensis* (mate) **leaf**, *Inula helenium* (elecampane) root, *Malpighia puniceifolia* (acerola) fruit, *Matricaria recutita* (German chamomille) flower, *Medicago sativa* (alfalfa) **leaf**, *Melissa officinalis* (balm) **leaf**, *Olea europaea* (olive tree) **leaf**, *Ononis spinosa* (Spring rest-harrow) root, *Orthosiphon stamineus* (Java tree) **leaf**, *Panax ginseng* (Korean ginseng) root, *Passiflora incarnate* (passionflower) herb, *Paullinia cupana* (guarana) seed, *Petroselinum crispum* (parsley) seed, *Peumus boidus* (boldo tree) **leaf**, *Piper methysticum* (kava kava) root, *Piscidia piscipula* (Jamaica dogwood) root bark, *Prunus domestica* (prune) fruit, *Pueraria lobata* (kudzu vine) root, *Rhamnus purshianus* (cascara) bark, *Rosa canina* (dog hip rose) fruit, *Rosmarinus officinalis* (rosemary) **leaf**, *Rumex crispus* (yellow dock) root, *Salix alba* (white willow) bark, *Salvia officinalis* (sage) **leaf**, *Sambucus nigra* (black elder) flower, *Schizandra chinensis* (Chinese mongolavine) fruit, *Scutellaria lateriflora* (skullcap) herb, *Serenoa serrulata* (saw palmetto) fruit, *Silybum marianum* (milk thistle) seeds, *Silybum marianum* (silymarine) fruit, *Smilax officinalis* (sarsaparilla) root/rhizome, *Solidago vigaurea* (golden rod) herb, *Tabebuia avellanedae* (pau d'arco) stem bark, *Taraxacum officinale* (dandelion) herb, *Thymus vulgaris* (common thyme) herb, *Tilia cordata* (lime tree) flower, *Tribulus terrestris* (burra gokhru) fruit, *Trifolium pratense* (red clover) flower, *Turnera diffusa* (damiana) **leaf**, *Uncaria tomentosa* (cat's claw) stem bark, *Urtica dioica* (nettle) root, *Vaccinium myrtillus* (bilberry) fruit, *Valeriana officinalis* (valerian) root, *Vanilla planifolia* (vanilla) fruit, *Verbena officinalis* (vervain) herb, *Viburnum opulus* (cramp bark) twig bark, *Viola odorata* herb, *Viscum album* (mistletoe) herb, *Vitex agnus castus* (chaste tree) fruit, *Vitis vinifera* (Grapeseed) seed, *Withania somnifera* (Winter cherry) root, *Yucca elata* (paimelia) root, *Zanthoxylum americanum* (prickly ash) bark, *Zea mays* (corn) styles and stigmas, *Zingiber officinale*

(ginger) rhizome and Zizyphus spinosa (Chinese jujube) fruit.
Preferred method: The concentrated herbal extract, and the fill liquid are preferably combined at 50-80 degrees Centigrade, and mixed with slow stirring to optimise solubilisation. The concentrated herbal extract is dispersed into a carrier material prior to combining with the fill liquid.

The process comprises:

- (i) dissolving the carrier material with the fill liquid to form a clear herbal solution prior to encapsulation; and/or
- (ii) **filtering** any undissolved carrier material from the clear herbal solution prior to encapsulation.

ABEX

UPTX: 19990630

EXAMPLE - A concentrated soft extract of ginger was extracted with liquid carbondioxide. The ginger extract was dissolved in soya bean oil to form a clear solution, which was then encapsulated. The formulation of the final product was:

- (i) active fill solution:
 - (1) ginger extract (264mg); and
 - (2) soya bean oil (146mg); and
- (ii) soft gelatin shell:
 - (1) gelatin (120mg);
 - (2) glycerol (53.2mg); and
 - (3) water (15.1mg).

L83 ANSWER 23 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-288165 [24] WPIX

DNC C1999-085196

TI Preparation of pharmaceutical grade **Ginkgo biloba**.

DC B04 C03 D16

IN FRIEDMAN, E P; KHWAJA, T A

PA (PHAR-N) PHARMAPRINT INC; (UYSC-N) UNIV SOUTHERN CALIFORNIA

CYC 84

PI WO 9920291 A2 19990429 (199924) * EN 95p A61K035-78 <--

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
UG US UZ VN YU ZW

AU 9913633 A 19990510 (199938)

EP 1027603 A2 20000816 (200040) EN G01N033-50

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

CN 1290349 A 20010404 (200140) G01N033-50

JP 2002515402 W 20020528 (200238) 93p A61K035-78 <--

ADT WO 9920291 A2 WO 1998-US22506 19981023; AU 9913633 A AU 1999-13633
19981023; EP 1027603 A2 EP 1998-957357 19981023, WO 1998-US22506 19981023;
CN 1290349 A CN 1998-812473 19981023; JP 2002515402 W WO 1998-US22506
19981023, JP 2000-516688 19981023

FDT AU 9913633 A Based on WO 9920291; EP 1027603 A2 Based on WO 9920291; JP
2002515402 W Based on WO 9920291

PRAI US 1997-956600 19971023

IC ICM **A61K035-78**; G01N033-50

ICS A61P009-00; A61P025-00; G01N033-15

AB WO 9920291 A UPAB: 19990624

NOVELTY - A method for determining whether a **ginkgo** material is a pharmaceutical grade **ginkgo**, comprising separating the **ginkgo** material to determine the biological activity and comparing it to a standard, is new.

DETAILED DESCRIPTION - The method for determining whether a **ginkgo** material is a pharmaceutical grade **ginkgo**, comprises:

- (a) separating a representative aliquot of the **ginkgo** material having a bioactivity into marker fractions, wherein at least one marker fraction comprises at least one active component;

- (b) determining the bioactivity of at least one marker fraction to provide a bioactivity fingerprint of the representative aliquot; and
- (c) comparing the bioactivity fingerprint of the representative aliquot to a bioactivity fingerprint standard which has been established for a pharmaceutical grade **ginkgo** to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**.

INDEPENDENT CLAIMS are also included for the following:

- (1) a method for determining whether a **ginkgo** material is a pharmaceutical grade **ginkgo**, comprises:
 - (a) providing the **ginkgo** material, which **ginkgo** material comprises components having a bioactivity, where at least one component has a standardized bioactivity profile;
 - (b) separating a representative aliquot from the **ginkgo** material into marker fractions, where at least one marker fraction comprises at least one active component;
 - (c) measuring an amount of at least one active component in at least one marker fraction;
 - (d) calculating the bioactivity of at least one marker fraction based on the amount of at least one active component present and the standardized bioactivity profile to provide a calculated bioactivity fingerprint of the representative aliquot; and
 - (e) comparing the calculated bioactivity fingerprint of the representative aliquot to a bioactivity fingerprint standard which has been established for a pharmaceutical grade **ginkgo** to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**;
- (2) a method for determining whether a **ginkgo** material is a pharmaceutical grade **ginkgo**, comprising:
 - (a) determining a total bioactivity of a representative aliquot of the **ginkgo** material with a bioassay selected from a GABAA assay, a GABA benzodiazepine central assay, a leukotriene C4 synthetase assay, a 5-lipoxygenase assay, and a monoamine oxidase A assay; and
 - (b) comparing the total bioactivity of the representative aliquot with a total bioactivity standard to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**; and
- (3) a pharmaceutical grade **ginkgo** obtained by the methods above.

ACTIVITY - Antithrombotic; Antihypertensive; Anticancer; Vasodilator.

Platelets of male or female New Zealand derived albino rabbits weighing 2.5-3.0 kg were prepared in modified Tris-HCl pH 7.5 buffer using standard techniques. A 50 pg aliquot of membrane is incubated with 0.4 nM (3H)-platelet activating factor (PAF) for 60 minutes at 25 deg. C. Non-specific binding was estimated in the presence of 1 micro M PAF. Labeled membranes were trapped on glass **filters** and washed 3 times to remove un-liganded label. The **filters** were counted in a liquid scintillation counter to determine the amount of specifically bound (3H)-PAF. Compounds were initially screened at a 10 micro M concentration. Commercially available **ginkgolides** A, B and C and **bilobalide** served as extract and fraction compound controls. **Ginkgolide** A had an IC50 of 9.4×10^{-7} M, **Ginkgolide** B had an IC50 of 2.5×10^{-7} M and **Ginkgolide** C had an IC50 of 1.7×10^{-5} M.

MECHANISM OF ACTION - None given.

USE - The pharmaceutical grade **ginkgo** is used for treating or ameliorating a cardiovascular disorder, or for treating or ameliorating a psychological disorder (all claimed).

ADVANTAGE - The process ensures that only **ginkgo** of a constant quality is used for the treatment of cardiovascular disorders and psychological disorders. It provides the means of isolating the essentially active parts of the plant, while discarding non-essential parts of the plant.

MC CPI: B04-A10; B14-F02; C04-A10; C14-F02; D05-H09

TECH UPTX: 19990624

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred materials: At least one marker fraction contains at least one active component. The **ginkgo** material is an alcoholic extract, an aqueous or organic extract, a supercritical carbon dioxide extract, an oil, a powdered plant material, a homogeneous material or a mixture of plant materials. The active component is a **lactone** (especially **ginkgolide A**, **B** or **C**, or a **bilobalide**), **amentoflavone**, **anacardic acid**, **gamma-aminobutyric acid**, **glutamic acid**, **glutamine**, **hinokiflavone**, **isorhamnetin**, **kaempferol**, **proline** or **quercetin**.

Preferred methods: The methods for determining whether a **ginkgo** material is a pharmaceutical grade **ginkgo** also comprises the steps:

(a) determining an amount of an active component in at least one marker fraction to provide a quantitative compositional fingerprint of the representative aliquot; and

(b) comparing the quantitative compositional fingerprint of the representative aliquot to a quantitative compositional fingerprint standard which has been established for a pharmaceutical grade **ginkgo** to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**.

Alternatively, the method comprises the additional steps:

(a) determining a total bioactivity of the representative aliquot of the **ginkgo** material; and

(b) comparing the total bioactivity of the representative aliquot with a total bioactivity standard to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**.

The method may also comprise:

(a) separating a representative aliquot from the **ginkgo** material into marker fractions, where at least one marker fraction comprises at least one active component;

(b) determining an amount of an active component in at least one marker fraction to provide a quantitative compositional fingerprint of the representative aliquot; and

(c) comparing the quantitative compositional fingerprint of the representative aliquot to a quantitative compositional fingerprint standard which has been established for a pharmaceutical grade **ginkgo** to determine whether the **ginkgo** material is a pharmaceutical grade **ginkgo**.

L83 ANSWER 24 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1999-278295 [24] WPIX

DNC C1999-081914

TI **Ginkgo leaf** liquor - used to promote blood circulation.

DC B04 D16

IN ZHANG, J

PA (YIGU-N) YIGUANG HEALTH CARE PROD FACTORY ZHONGZH

CYC 1

PI CN 1206742 A 19990203 (199924)* 1p C12G003-04

ADT CN 1206742 A CN 1997-115027 19970724

PRAI CN 1997-115027 19970724

IC ICM C12G003-04

ICS **A61K035-78**

AB CN 1206742 A UPAB: 19990630

The present invention relates to a health-care **ginkgo leaf** liquor and its method of preparation. The dried **ginkgo leaf** richly containing **flavone** and

biolobalide and **crataegus pinnatifida** are pulverized, distilled liquor is added, heat-insulated for 1-3 hours. It is **filtered**, then the **filtrate** is diluted with water, left to settle, and insoluble residue is removed by **filtration**, then the distilled liquor is

added to regulate the concentration of the **filtrate**, and the honey and cane sugar are added, stood still and **filtered** so as to obtain the invented finished liquor. The product is used to boost qi and freeing the vessels, promoting circulation of blood and reducing fat, raising oxygen supply for heart muscle, resisting platelet agglutination, reducing cholesterol and improving memory, and free from any side effect.

FS CPI

FA AB

MC CPI: B04-A08C2; **B04-A10**; B14-D02A2; B14-F02; B14-F06; B14-J01A4; D05-E

L83 ANSWER 25 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1997-294865 [27] WPIX

DNC C1997-095224

TI Glutathione-S-transferase containing **Ginkgo biloba leaves** - is useful for glutathione-S-transferase activating food, drinks or pharmaceuticals.

DC B04 D13

PA (NIGR-N) NIPPON GREEN WAVE KK

CYC 1

PI JP 09110713 A 19970428 (199727)* 5p A61K035-78 <--

ADT JP 09110713 A JP 1995-265843 19951013

PRAI JP 1995-265843 19951013

IC ICM **A61K035-78**ICS A23L001-30; A23L002-38; A23L002-52; **A61K031-365**

ICA C07D493-14; C07D493-22

AB JP 09110713 A UPAB: 19970702

Glutathione-S-transferase activator comprises extract of **Ginkgo biloba leaves**. Also claimed are: (A) a glutathione-S-transferase activator comprising bilohalide; (B) a glutathione-S-transferase activator comprising **ginkgolide A**; and (C) a glutathione-S-transferase activator comprising an extract of **Ginkgo biloba leaves** and bilohalide, **ginkgolide A**, or th both. USE/ADVANTAGE - Used for glutathione-S-transferase activating food and drinks or pharmaceuticals. The activator prevents cancer. In an example, to crushed dry **Ginkgo biloba leaves** (500g), 70% aqueous ethanol (2500 ml) was added. The mixture was heated to 50 deg.C for 30 hours and **filtered** to give a first extract and a first extraction residue. To the first extraction residue, 70% aqueous ethanol (2000ml) was added. The mixture was heated to 50 deg.C for 3 hours and **filtered** to give a second extract and a second extraction residue. To the second extraction residue, 70% aqueous ethanol (2000ml) was added, and the mixture was heated to 50 deg.C for 3 hours and **filtered** to give a third extract and a third extraction residue. The first, second, and third extract were mixed (total 6000ml) and concentrated under reduced pressure to approximately 500ml. To the concentrate water (500ml) was added and the mixture was stirred and **filtered** to separate th precipitated hydrophobic substances. The resulting **filtrate** was loaded onto a column packed with unsubstituted porous resin (HP-20) (500ml) to adsorb the desired extract. The column was washed with water (1000ml). The extract was eluted with 70% aqueous ethanol (1000ml). The eluant (1000ml) was concentrated to dryness under reduced pressure to give the extract of **Ginkgo biloba leaves** (15g) containing **flavone glycoside** (24%) and terpenoid (6%).

Dwg.0/0

FS CPI

FA AB

MC CPI: B04-A08C2; **B04-A10B**; B14-E11; B14-H01; B14-L01; D03-H01G; D03-H01T2

L83 ANSWER 26 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1996-497369 [49] WPIX

DNC C1996-155441
 TI Extracts of **ginkgo biloba** leaves containing **flavonoid(s)** and which are free from terpene(s) - useful as flavouring in dairy prods. such as yoghurt(s), as well as refreshing and nutritional non-alcoholic drinks, sweets and chewing gum.
 DC B04 D13
 IN OREILLY, J; O REILLY, J; O'REILLY, J
 PA (SCRC) SCRAS SOC CONSEILS RECH APPL SCI; (SCRC) SOC CONSEILS RECH & APPL SCI; (SCRC) SCRAS SOC CONSEILS RECH & APPL SCI
 CYC 71
 PI WO 9633728 A1 19961031 (199649) * FR 15p A61K035-78 <--
 RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
 W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
 AU 9657679 A 19961118 (199710) A61K035-78 <--
 NO 9704944 A 19971024 (199805) A23L001-221
 EP 822825 A1 19980211 (199811) FR A61K035-78 <--
 R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU NL PT SE
 CZ 9703285 A3 19980218 (199813) A23L001-221
 HU 9900009 A2 19990329 (199921) A61K035-78 <--
 JP 11504514 W 19990427 (199927) 16p A23L001-221
 BR 9608301 A 19990615 (199929) A61K035-78 <--
 AU 706453 B 19990617 (199935) A61K035-78 <--
 MX 9708202 A1 19971201 (199936) A61K035-78 <--
 NZ 308133 A 19991028 (199953) A61K035-78 <--
 KR 99008066 A 19990125 (200014) A61K035-78 <--
 RU 2163254 C2 20010220 (200123) C11B009-02
 US 6242030 B1 20010605 (200133) A23L001-22
 US 2001043976 A1 20011122 (200176) A23L001-22
 CN 1185113 A 19980617 (200254) A61K035-78 <--
 NO 314683 B1 20030505 (200333) A23L001-221
 ADT WO 9633728 A1 WO 1996-FR653 19960429; AU 9657679 A AU 1996-57679 19960429; NO 9704944 A WO 1996-FR653 19960429, NO 1997-4944 19971024; EP 822825 A1 EP 1996-914261 19960429, WO 1996-FR653 19960429; CZ 9703285 A3 WO 1996-FR653 19960429, CZ 1997-3285 19960429; HU 9900009 A2 WO 1996-FR653 19960429, HU 1999-9 19960429; JP 11504514 W JP 1996-532235 19960429, WO 1996-FR653 19960429; BR 9608301 A BR 1996-8301 19960429, WO 1996-FR635 19960429; AU 706453 B AU 1996-57679 19960429; MX 9708202 A1 MX 1997-8202 19971024; NZ 308133 A NZ 1996-308133 19960429, WO 1996-FR653 19960429; KR 99008066 A WO 1996-FR653 19960429, KR 1997-707590 19971025; RU 2163254 C2 WO 1996-FR653 19960429, RU 1997-119468 19960429; US 6242030 B1 WO 1996-FR653 19960429, US 1997-945565 19971105; US 2001043976 A1 Div ex WO 1996-FR653 19960429, Div ex US 1997-945565 19971105, US 2001-837519 20010418; CN 1185113 A CN 1996-194075 19960429; NO 314683 B1 WO 1996-FR653 19960429, NO 1997-4944 19971024
 FDT AU 9657679 A Based on WO 9633728; EP 822825 A1 Based on WO 9633728; CZ 9703285 A3 Based on WO 9633728; HU 9900009 A2 Based on WO 9633728; JP 11504514 W Based on WO 9633728; BR 9608301 A Based on WO 9633728; AU 706453 B Previous Publ. AU 9657679, Based on WO 9633728; NZ 308133 A Based on WO 9633728; KR 99008066 A Based on WO 9633728; RU 2163254 C2 Based on WO 9633728; US 6242030 B1 Based on WO 9633728; US 2001043976 A1 Div ex US 6242030; NO 314683 B1 Previous Publ. NO 9704944
 PRAI GB 1995-8533 19950427
 REP 4.Jnl.Ref; EP 360556; EP 431536; EP 436129; EP 543051; EP 577143; FR 2007352; JP 62205028; JP 7048267; KR 9402796
 IC ICM A23L001-22; A23L001-221; A61K035-78; C11B009-02
 ICS A23C009-00; A23C009-123; A23C009-13; A23G003-00; A23G003-30; A23L001-00; A23L001-03; A23L002-00; A23L002-52; C11B009-00
 ICA C07D311-30; C07D311-32; C07H017-065
 AB WO 9633728 A UPAB: 19961205
Flavonoid extracts of leaves of **Ginkgo**

biloba, which are substantially free from terpenes, are new.

The extracts pref. contain at least 0.5% and at the most 1% terpenes and 28-35% **flavonoid** heterosides.

USE - The extracts are useful in flavouring food, partic. dairy prods. such as yoghurts, as well as refreshing and nutritional non-alcoholic drinks, sweets and chewing gum (all claimed).

In an example, **ginkgo biloba leaves** were extracted with 6-12 pts. 60:40 acetone and water at 50-60 deg.C. The extract was concentrate to reduce the acetone content to < 3%. The solution was cooled and lipids were eliminated by decantation. The aqueous solution was then extracted with 2-5 pts. ethyl acetate containing up to 20% heptane. The resulting solution was extracted with a minimal quantity of acetone/butanol (acetone content up to 15%) in presence of ammonium sulphate. The organic phase was concentrate twice and insoluble material was **filtered** off and the solution concentrate to dryness giving the extract in the form of a homogeneous powder. In tests, it was found that the natural astringent properties of the extract balances the basic flavour of dairy prods. by decreasing the acidity found in conventional prods. The extracts complement dairy and fruity notes.

Dwg.0/0

FS CPI
FA AB
MC CPI: **B04-A10B**; B14-E11; D03-B09; D03-H01C

L83 ANSWER 27 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1996-426088 [43] WPIX

DNC C1996-134305

TI Compsn. containing **Gingko biloba** extract, acid and (bi)carbonate - to give aqueous compsn. stable for one hour, for treating circulation disorders.

DC B04

IN **OSCHMANN, R**

PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**

CYC 20

PI DE 19509856 A1 19960919 (199643)* 3p A61K035-78 <--

WO 9629085 A1 19960926 (199644) DE 11p A61K035-78 <--

RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: JP US

DE 19509856 C2 19970911 (199740) 3p A61K035-78 <--

EP 814824 A1 19980107 (199806) DE A61K035-78 <--

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

JP 11502214 W 19990223 (199918) 9p A61K035-78 <--

EP 814824 B1 20010509 (200128) DE A61K035-78 <--

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DE 59606882 G 20010613 (200134) A61K035-78 <--

ES 2157429 T3 20010816 (200156) A61K035-78 <--

US 6399099 B1 20020604 (200242) A61K009-46

ADT DE 19509856 A1 DE 1995-19509856 19950317; WO 9629085 A1 WO 1996-EP1135

19960315; DE 19509856 C2 DE 1995-19509856 19950317; EP 814824 A1 EP

1996-907489 19960315; WO 1996-EP1135 19960315; JP 11502214 W JP

1996-528064 19960315; WO 1996-EP1135 19960315; EP 814824 B1 EP 1996-907489

19960315; WO 1996-EP1135 19960315; DE 59606882 G DE 1996-506882 19960315,

EP 1996-907489 19960315; WO 1996-EP1135 19960315; ES 2157429 T3 EP

1996-907489 19960315; US 6399099 B1 WO 1996-EP1135 19960315, US

1997-913896 19970917

FDT EP 814824 A1 Based on WO 9629085; JP 11502214 W Based on WO 9629085; EP

814824 B1 Based on WO 9629085; DE 59606882 G Based on EP 814824, Based on

WO 9629085; ES 2157429 T3 Based on EP 814824; US 6399099 B1 Based on WO

9629085

PRAI DE 1995-19509856 19950317

REP JP 7069862

IC ICM A61K009-46; **A61K035-78**

ICS A61K009-00; A61K009-16

AB DE 19509856 A UPAB: 19961025
Sparkling compsn. contains **Ginkgo biloba** dry extract
and a sparkling mixture of a physiologically acceptable acid (or its sodium
salt) and a carbonate or hydrogen carbonate, in proportions such that the
resulting solution has a pH of 6-8 and is stable for at least one hour.
USE - The compsn. is used to treat peripheral and cerebral
circulation disorders.
ADVANTAGE - The compsn. forms a clear solution that is stable for
sufficient time to prevent degradation or precipitation of valuable components.
Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: B04-A08C1; **B04-A10B**; B04-C03C; B05-C04; B10-A09B; B10-C02;
B12-M09; B14-F02

L83 ANSWER 28 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1996-018388 [02] WPIX
DNC C1996-006216
TI Isolation and purificn. of **gingkolides** from **gingko**
leaves - comprises, e.g. defatting aqueous **gingko**
leaves extract with hexane or cyclohexane and adsorbing impurities
with activated carbon.

DC B03 B04
IN KWAK, U; OH, K; PARK, H
PA (SUNK-N) SUN KYONG IND LTD
CYC 1
PI KR 9402796 B1 19940402 (199602)* A61K035-78 <--
ADT KR 9402796 B1 KR 1989-8341 19890616
PRAI KR 1989-8341 19890616
IC ICM **A61K035-78**
AB KR 9402796 B UPAB: 19960115
The method comprises: (a) degreasing an aqueous solution of an extract of
gingko tree leaves with hexane or cyclohexane; (b)
extracting the residual aqueous solution layer with a nonpolar solvent to dry
to
powder; (c) dissolving the obtd. powder in a lower ketone or alcohol; (d)
adding activated carbon to the solution to adsorb the impurities,
filtrating it and concentrating it to obtain a powder mixture of
gingkolides; and (e) dissolving the mixture in a mixture solvent of a
lower acetate and a lower alcohol and purifying it with an adsorption
column of activated carbon and silica gel.

FS CPI
FA AB
MC CPI: **B04-A07E**

L83 ANSWER 29 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1995-228625 [30] WPIX
CR 2003-486260 [46]
DNC C1995-105323
TI **Ginkgo leaves** extracts, useful as medicine or food
additives - contain **flavone** glycoside and only small amts of
quercetin and salicylic acid derivative.

DC B04 D13
PA (DAIL) DAICEL CHEM IND LTD
CYC 1
PI JP 07138171 A 19950530 (199530)* 12p A61K035-78 <--
JP 3518882 B2 20040412 (200425) 12p A61K035-78 <--
ADT JP 07138171 A JP 1993-307158 19931112; JP 3518882 B2 JP 1993-307158
19931112
FDT JP 3518882 B2 Previous Publ. JP 07138171
PRAI JP 1993-307158 19931112
IC ICM **A61K035-78**
ICS A23L001-30; A61P009-10; A61P025-28

AB JP 07138171 A UPAB: 20040418

Extracts of **gingko leaves** comprise more than 15 wt% **flavone glycoside**, less than 0.02 wt% **quercetin** and less than 30 ppm **salicylic acid derivative**

Also claimed are (A) the prepn of the extracts of **gingko leaves** comprising (1) ext using less than 55 vol% of aq alcohol, (2) adsorbing the obtd extracts, (3) eluting the absorbed substance and (4) concn of the eluted soln; (B) the prepn comprising (1) extracting, (2) adsorbing the obtd extracts using hydrophobic synthetic resin absorbent, (3) eluting using solvent of pH more than 9.5 and (4) concn; (C) the prepn comprising (1) extracting, (2) adsorbing, (3) eluting using solvent of Ph more than 9.5, contg 0-15 vol% alcohol, and (4) concn; (D) the prepn of the extracts comprising concn of the sepd soln contg **gingko leaves** extracts at less than 80 deg C; (E) the prepn of the extracts comprising concn of the sepd soln contg **gingko leaves** extracts at pH 6-8; and (F) the prepn of the extracts comprising concn of the sepd soln contg **gingko leaves** extracts under inert gas atmosphere.

The amt of **flavone glycoside** is more than 30 wt%. The extracts are adsorbed under acidic conditions. The eluting solvent is less than 55 vol% aq alcohol. Alcohol is pref 1-3C monohydric alcohol. The pH of eluting solvent is pref more than 10. The eluting solvent is pref aq solvent and contains 0-15 vol% alcohol.

USE - The **gingko leaves** extracts are useful as medicine or food additives. They are very safe because contents of both **salicylic acid deriv** and **quercetin** are very small. They are obtd easily in high yield.

In an example, to **gingko leaves** (150 g) was added water (2000 ml), and the whole wax extracted at 90 deg C for 3 hrs to separate the residue, to which water (1000 ml) was added, followed by heating at 90 deg C for 1.5 hrs. The two obtd **filtrates** were combined and **filtered** using Celite (15g). Hydrophobic synthetic resin adsorbent (Amberlite XAD-2000) (15 ml) was filled in a column through which the obtd **filtrate** (440 ml) was passed at a space velocity of 2/hr. After washing the column, 40 vol% of aq ethanol soln (75 ml) was passed, and the adsorbed substance was eluted. The eluted soln was conc at 40-50 deg C to give 320 mg of **gingko leaves** extracts (1.45 wt%), which contained 17.8 wt% of **flavone glycoside**. The amt of **quercetin** was less than 0.001 wt% and that of **salicylic acid deriv** was less than 1 ppm.

Dwg.0/1

FS CPI

FA AB

MC CPI: B04-A10B; D03-H01T

L83 ANSWER 30 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1994-354650 [44] WPIX

DNC C1994-161667

TI Water-soluble **gingko leaf** extract useful for drinks or beauty wash - contains terpene **lactone(s)** and **flavone glycoside**.

DC B04 D13

PA (NIGR-N) NIPPON GREEN WAVE KK; (YAKU-N) YAKUKEN YG

CYC 1

PI JP 06279300 A 19941004 (199444)* 5p A61K035-78 <--

ADT JP 06279300 A JP 1993-91879 19930329

PRAI JP 1993-91879 19930329

IC ICM A61K035-78

ICS A23L001-30

AB JP 06279300 A UPAB: 19941223

Water-soluble **gingko leaf** extract contains 20% or more of **flavone glycoside** and 5.6% or more of terpene **lactones**.

Also claimed is preparation of the water-soluble **gingko leaf extract** comprising (a) mixing a water-insol. **gingko leaf extract** extracted using a water-containing organic solvent, with water or a water-containing organic solvent; (b) adding basic cpd. to mixture

at

30 deg.C or less to adjust pH 6.0-7.0 or adding basic cpd. to mixture at 80 deg.C or less to adjust pH 5.0-6.0; and (c) **filtered** mixture and concentrate and dried **filtrate**.

Pref., the water-insol. **gingko leaf extract** is prepared by (1) extracting dried **gingko leaves** with 40-80% ethanol-containing water at warm; (2) concentrating extract to 1/2 volume, and **filtering** the concentrate; (3) contacting **filtrate** to an unsubstd. gp.-type porous resin to adsorb **gingko leaf extract**, washing the resin with water, and contacting the resin with aqueous solution containing 60% or more of ethanol to desorb the extract; and (4) concentrating eluate to dryness.

of

USE/ADVANTAGE - The water-soluble extract containing higher concentration

effective components is simply obtd. A parenteral solution, various drinks and a beauty wash are easily prepared from water-soluble extract.

In an example, a commercial water-insol. **gingko leaf extract** (10g) containing 24.9% of **flavone glycoside** and total 6.5% of **terpene lactones** was dispersed in purified water (50ml) with stirring. To the dispersion was dropwise added 10% KHCO_3 to adjust pH 6.3. To mixture was added a **filter aid** (5g) and **filtered**. The **filtrate** was concentrate in vacuo to obtain a brown powder (9.8g) of which 1g was completely dissolved in water (100ml).
Dwg.0/0

FS

CPI

FA

AB; GI

MC

CPI: B04-A08C2; **B04-A10**; B06-A01; B14-E11; B14-R01; D03-H01G

L83

ANSWER 31 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN

1993-236760 [30] WPIX

DNC

C1993-105430

TI

Flavonoid extract prodn from **gingko biloba**

leaves - by repeated extn with mixts of organic solvents and water.

DC

B04 D21

PA

(EURO-N) EUROMED SA

CYC

1

PI

ES 2036951 A1 19930601 (199330)*

A61K035-78

<--

ES 2036951 B1 19940116 (199407)

A61K035-78

<--

ADT

ES 2036951 A1 ES 1991-2679 19911129; ES 2036951 B1 ES 1991-2679 19911129

PRAI

ES 1991-2679 19911129

IC

ICM **A61K035-78**

AB

ES 2036951 A UPAB: 19931118

The **leaves** are extracted with an aqueous lower ketone or alcohol solution and the solvent removed, leaving a soft extract. This is dissolved in a mixture of water and organic solvent with limited miscibility, and then extracted with the same solvent saturated with water. After concentration the remaining extract is opt. treated to remove lipid components, and dissolved in a lower alcohol, **filtered** and concentrated. Treatment with aqueous ammonium sulphate solution together with a lower alcohol and ketone, leads to an organic phase from which the solvent is evaporated. The dry product consists of 15-40% **gingko flavanoids** with a maximum of 1.5% prodelphinidines and 10% proanthocyanidines.

USE - Used for treatment of cerebral circulation deficiency and for local cosmetic preps.

FS

CPI

FA

AB

MC

CPI: **B04-A07F2**; B12-C10; B12-E01; B12-L02; D08-B

L83 ANSWER 32 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1993-227036 [28] WPIX
 DNC C1993-101058
 TI Use of **bilobalid** or **Ginkgo biloba** extract -
 for the treatment of anxiety, depression and tension.
 DC B02
 IN CHATTERJEE, S; NOELDNER, M; CHATTERJEE, S S
 PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**
 CYC 18
 PI WO 9312784 A1 19930708 (199328)* DE 25p A61K031-365
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
 W: JP US
 EP 618797 A1 19941012 (199439) DE
 R: DE FR GB IT
 JP 07502522 W 19950316 (199519) 7p A61K031-365
 US 6022889 A 20000208 (200014) A61K031-34
 EP 618797 B1 20000315 (200018) DE A61K031-365
 R: DE FR GB IT
 DE 59209823 G 20000420 (200026) A61K031-365
 JP 3188461 B2 20010716 (200142) 10p A61K031-365
 ADT WO 9312784 A1 WO 1992-EP2981 19921222; EP 618797 A1 WO 1992-EP2981
 19921222, EP 1993-901748 19921222; JP 07502522 W WO 1992-EP2981 19921222,
 JP 1993-511428 19921222; US 6022889 A WO 1992-EP2981 19921222, US
 1994-244900 19940714; EP 618797 B1 WO 1992-EP2981 19921222, EP 1993-901748
 19921222; DE 59209823 G DE 1992-509823 19921222, WO 1992-EP2981 19921222,
 EP 1993-901748 19921222; JP 3188461 B2 WO 1992-EP2981 19921222, JP
 1993-511428 19921222
 FDT EP 618797 A1 Based on WO 9312784; JP 07502522 W Based on WO 9312784; US
 6022889 A Based on WO 9312784; EP 618797 B1 Based on WO 9312784; DE
 59209823 G Based on EP 618797, Based on WO 9312784; JP 3188461 B2 Previous
 Publ. JP 07502522, Based on WO 9312784
 PRAI DE 1991-4142878 19911223
 REP 4.Jnl.Ref; EP 143977; GB 2023421; JP 02031646; US 4571407
 IC ICM A61K031-34; A61K031-365
 ICS **A61K035-78**; A61P025-22; A61P025-24
 ICA C07D493-14
 AB WO 9312784 A UPAB: 19931116
 Use of **bilobalid** (I), or of a **Ginkgo biloba**
 extract enriched in (I), as an anxiolytic agent is new.
 USE - (I), or the extract, is useful for treatment or prevention of
 anxiety, tension and depression. It has an anxiolytic action largely
 similar to that of diazepam or buspiron. (I) is already known for
 treatment of degenerative nervous disorders.
 Formulations are conventional tablets, solns., capsules, etc. and
 daily doses are 5-40 mg (I) orally or 0.5-5 mg parenterally. A typical
 tablet contains 5 mg pure (I); 58.5 mg lactose; 18 mg microcrystalline
 cellulose; 18 mg corn starch and 0.5 mg Mg stearate.
 Dwg.0/3
 FS CPI
 FA AB; GI; DCN
 MC CPI: B06-A03; B12-C06; B12-C10

 L83 ANSWER 33 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1993-183404 [23] WPIX
 DNC C1993-081223
 TI Slow-release micro-tablets containing dry extract of vegetable origin - e.g.
gingkolide B or aesculus extract and glyceride, fatty alcohol
 and/or wax as lipophilic auxiliary.
 DC B04 B07
 IN SCHWABE, K
 PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**
 CYC 1
 PI DE 4139118 A1 19930603 (199323)* 4p A61K009-22

ADT DE 4139118 A1 DE 1991-4139118 19911128

PRAI DE 1991-4139118 19911128

IC ICM A61K009-22

ICS A61K009-52

AB DE 4139118 A UPAB: 19931115

Microtablets comprise a compacted mixture of active agents and auxiliaries and have a diameter of at most 3mm. Tablet comprises (a) vegetable active agents in the form of at least one dry vegetable extract which makes up 30 weight % of the total weight of the tablet, and (b) at least one lipophilic auxiliary selected from glycerides, fatty alcohols and waxes.

USE/ADVANTAGE - The neurotablets can be used as phytopharmaceuticals in multi-unit-dose systems. They can be filled into hard gelatin capsules with conventional filling machines.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: B04-A07F2; B04-B01C1; B10-E04C; B10-G02; B12-M11C

L83 ANSWER 34 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1992-265118 [32] WPIX

DNC C1992-118408

TI Preparation of extract of **ginkgo leaf** having good medicinal effects - by extracting dried **leaves** with ethanol solution, condensing extracted liquid, contacting **filtered** liquid with unsubstituted porous resin, etc..

DC B04 D13

PA (UMED-I) UMEDA S

CYC 1

PI JP 04182434 A 19920630 (199232)* 4p A61K035-78 <--

JP 2996716 B2 20000111 (200007) 3p A61K035-78 <--

ADT JP 04182434 A JP 1990-312175 19901117; JP 2996716 B2 JP 1990-312175 19901117

FDT JP 2996716 B2 Previous Publ. JP 04182434

PRAI JP 1990-312175 19901117

IC ICM A61K035-78

ICS A23L001-30

ICA A61P009-00

AB JP 04182434 A UPAB: 19931025

In the preparation of an extract of **ginkgo leaf** containing at least 20% of **flavone** glycosides, the dried **leaves** are extracted, while warming, with 40-80% aqueous ethanol solution. The extracted liquid is condensed to up to one-half of the original volume, cooled and **filtrated**. The **filtrate** is contacted with an unsubstd.

type porous resin to adsorb the extract. After washing with water, the resin is contacted with at least 60% aqueous ethanol solution to desorb the extract. Alternatively, the resin is contacted with 10-40% aqueous ethanol solution and then with at least 60% aqueous ethanol solution to desorb in

order. The

eluate obtd. by the desorption is condensed to dryness to obtain the extract containing at least 20% of the glycosides.

Pref., a water-soluble high mol. cpd(s). and/or polyglycerol fatty acid ester(s) is added to the aqueous ethanol solution and dried to obtain the extract having good water dispersibility.

USE/ADVANTAGE - Using safe ethanol as the solvent, the simple method gives high yield and high quality. The extract obtd. has good medicinal effects. The addition of the high mol. cpds. and/or the esters gives good water dispersibility.

Dwg.0/0

FS CPI

FA AB

MC CPI: B04-A07D5; D03-H01T

L83 ANSWER 35 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1992-106361 [14] WPIX
DNC C1992-049649
TI New extract from **Ginkgo Bilda leaves** - suitable for intravenous injection or infusion, and has no serum-precipitating and/or haem agglutinating properties.
DC B04
IN SCHWABE, K P; SCHWABE, K
PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**; (SCHW-N) **SCHWABE W & CO GMBH**; (SCHW-N) **SCHWABE GMBH & CIE WILLMAR**
CYC 18
PI EP 477968 A 19920401 (199214)* 9p
R: AT BE CH DE DK ES FR GB GR IT LU NL SE
DE 4030758 A 19920402 (199215) 5p
CA 2052392 A 19920329 (199225) A61K031-70
JP 04288019 A 19921013 (199247) 5p A61K035-78 <--
EP 477968 B1 19950503 (199522) EN 11p A61K035-78 <--
R: AT CH DE ES FR GB GR IT LI NL
DE 69109426 E 19950608 (199528) A61K035-78 <--
JP 07076177 B2 19950816 (199537) 6p A61K035-78 <--
ES 2077130 T3 19951116 (199551) A61K035-78 <--
US 5512286 A 19960430 (199623) 7p A61K035-78 <--
KR 154984 B1 19981116 (200029) A61K035-78 <--
CA 2052392 C 20020716 (200256) EN A61K031-70
ADT EP 477968 A EP 1991-116551 19910927; DE 4030758 A DE 1990-4030758 19900928; CA 2052392 A CA 1991-2052392 19910927; JP 04288019 A JP 1991-249122 19910927; EP 477968 B1 EP 1991-116551 19910927; DE 69109426 E DE 1991-609426 19910927; EP 1991-116551 19910927; JP 07076177 B2 JP 1991-249122 19910927; ES 2077130 T3 EP 1991-116551 19910927; US 5512286 A Cont of US 1991-766929 19910927, US 1994-200378 19940223; KR 154984 B1 KR 1991-16973 19910928; CA 2052392 C CA 1991-2052392 19910927
FDT DE 69109426 E Based on EP 477968; JP 07076177 B2 Based on JP 04288019; ES 2077130 T3 Based on EP 477968
PRAI DE 1990-4030758 19900928
REP 3.Jnl.Ref; DE 2117429; EP 303277; EP 352146; JP 02104530; JP 62029517; JP 62292794; US 4753929
IC ICM A61K031-70; **A61K035-78**
ICS A61K009-14; A61K009-19; B01D011-02
AB EP 477968 A UPAB: 19950626
Extracts from the **leaves** of **Ginkgo biloba** containing most of the flavone glycosides, **ginkgolides** and **bilobalide** originally present in the **leaves** are free of components of the **leaves** which have serum-precipitating and/or haemagglutinating properties.
Pref. the extract contains 20-30 weight% (especially 22-26) flavone glycosides, 2.5-4.5 weight% **ginkgolides** A, B, C and J in total, 2.0-4.0 weight% **bilobalide** and less than 10ppm (especially less than 1 ppm) alkylphenol cpds.
USE/ADVANTAGE - The extract is especially useful for the preparation of pharmaceuticals, pref. in ampoule form, for intravenous (IV) admin. e.g. IV injection or infusion, as it does not contain components disturbing IV admin. e.g. serum-precipitating and/or haemagglutinating compounds.
0/0
Dwg.0/0
FS CPI
FA AB
MC CPI: **B04-A07F2**; B12-H04
ABEQ EP 477968 B UPAB: 19950609
Extract from the **leaves** of **Ginkgo biloba** containing most of the flavone glycosides, **ginkgolides** and **bilobalide** originally present in the **leaves**, characterised in that it is essentially free of components of the **leaves** with serum-precipitating and/or haemagglutinating properties.

Dwg.0/0

ABEQ US 5512286 A UPAB: 19960610

An extract from the **leaves** of **Ginkgo biloba** containing most of the flavone glycosides, **ginkgolides** and **bilobalide** originally present in the **leaves**, comprising 20 to 30 weight percent flavone glycosides, 2.5 to 4.5 weight percent **ginkgolides** selected from the group consisting of **ginkgolide** A, B, C and J and mixtures thereof, 2.0 to 4.0 weight percent **bilobalide** and less than 10 ppm alkylphenol compounds, said extract being essentially free of components of the **leaves** with serum-precipitating or haemagglutinating properties.

Dwg.0/0

L83 ANSWER 36 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1991-172350 [24] WPIX

DNC C1991-074470

TI Extracts from **Ginkgo biloba leaves** - with high content of flavone glycoside(s) and **ginkgolide(s)** but with low alkyl phenol(s) content.

DC B04

IN SCHWABE, K P

PA (SCHW-N) SCHWABE W & CO GMBH

CYC 1

PI DE 3940095 A 19910606 (199124)*

ADT DE 3940095 A DE 1989-3940095 19891204

PRAI DE 1989-3940095 19891204

IC A61K035-78

AB DE 3940095 A UPAB: 19930928

Novel extracts from the **leaves** of **Ginkgo biloba** are practically free from alkyl phenols, have a high content of flavone glycosides and contain most of the **ginkgolides** and **bilobalide** originally present in the **leaves**.

Pref. the extracts contain 14-22 (especially 16-18) weight% flavone glycosides, 1.6-3wt.% total **ginkgolides** A, B, C and J, 1.4-2.7 weight% **bilobalide** and less than 10 ppm (especially less than 1 ppm) alkyl phenols.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes and thus the associated risks to the environment and the presence of residues in the pharmaceutical are avoided.

0/0

FS CPI

FA AB; DCN

MC CPI: B04-A07E; B04-A07F2; B12-F02; B12-H02

L83 ANSWER 37 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1991-172349 [24] WPIX

DNC C1991-074469

TI Enriched extracts of **Ginkgo biloba** - with high **flavone** glycoside content, and opt. high **Ginkgolide(s)** content and opt. high **bilobalide** content.

DC B04

IN JAGGY, H; OREILLY, J; O'REILLY, J

PA (MONT-N) MONTANA LTD; (WALL-N) WALLINGSTOWN CO LTD

CYC 18

PI DE 3940094 A 19910606 (199124)*

EP 436129 A 19910710 (199128)

R: AT BE CH DE ES FR GB GR IT LI LU NL SE

CA 2031384 A 19910605 (199133)

JP 03264533 A 19911125 (199202)
 DE 3940094 C 19920702 (199227) 6p A61K035-78 <--
 US 5389370 A 19950214 (199512) 6p A61K035-78 <--
 EP 436129 B1 19950412 (199519) EN 10p A61K035-78 <--
 R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
 DE 69018601 E 19950518 (199525) A61K035-78 <--
 ES 2070981 T3 19950616 (199531) A61K035-78 <--
 JP 2503107 B2 19960605 (199627) 6p A61K035-78 <--
 KR 175067 B1 19990201 (200039) A61K035-78 <--
 CA 2031384 C 20020625 (200252) EN A61K035-78 <--
 ADT DE 3940094 A DE 1989-3940094 19891204; EP 436129 A EP 1990-123140
 19901203; JP 03264533 A JP 1990-400222 19901203; DE 3940094 C DE
 1989-3940094 19891204; US 5389370 A Cont of US 1990-623861 19901204, US
 1992-909137 19920706; EP 436129 B1 EP 1990-123140 19901203; DE 69018601 E
 DE 1990-618601 19901203; EP 1990-123140 19901203; ES 2070981 T3 EP
 1990-123140 19901203; JP 2503107 B2 JP 1990-400222 19901203; KR 175067 B1
 KR 1990-19827 19901204; CA 2031384 C CA 1990-2031384 19901203
 FDT DE 69018601 E Based on EP 436129; ES 2070981 T3 Based on EP 436129; JP
 2503107 B2 Previous Publ. JP 03264533
 PRAI DE 1989-3940094 19891204
 REP EP 86315
 IC ICM A61K035-78
 ICS A61K031-35; A61K031-70
 ICA C07D311-30
 AB DE 3940094 A UPAB: 19970502
 Novel extracts from the leaves of **Ginkgo biloba** contain 40-60 (pref. 45-55)% **flavone glycosides**,
 5.5-8.0 (pref. 7.0)% **ginkgolides** A, B, C and J, 5.0-7.0 (pref.
 6.0)% **bilobalide**, less than 10% proanthocyanidines and at most
 10 ppm (pref. less than 1 ppm) alkyl phenols.
 Extracts of the above composition but containing less than 0.1%
bilobalide, or (c) of the above compsn. but containing at most 0.1%
ginkgolides are also new.
 USE/ADVANTAGE - The extracts can be used in the therapy of peripheral
 and cerebral arterial disorders of the circulation (extract (A)) in the
 therapy of illnesses in which the platelet activating factor plays a
 pathogenic (extract (B)) and against demyelinating neuropathia and brain
 oedema (extract (C)). The enriched concentrates can be used in smaller
 daily doses than previous extracts and can be used in countries with high
 requirements of pharmaceutical quality. Removal of ineffective components
 in the safety of use and allows for more exact analytical determination of
 the main components. The low content of alkyl phenols means there is
 practically no danger of allergic reactions. @(6pp Dwg.No.0/0)
 FS CPI
 FA AB; DCN
 MC CPI: B04-A07F2; B12-C10; B12-E01
 ABEQ DE 3940094 C UPAB: 19930928
 Prepn. of a **flavone** concentrate comprises extracting
Ginkgo biloba leaves with aq. acetone, MeOH or
 an aq. 1-3C alkanol at temps. 40-100deg.C; evapn. of the solvent (until
 not more than 10 wt% is present), opt. diluting with water, (such that the
 solids content is 15-20 wt%); after cooling below 25degC, the crystalline
 ppt, is removed (contg. proanthocyanidines) and the aq. **filtrate**
 is extracted with an alkyl formate or acetate (b.pt. below 120degC), opt.
 mixed with an aliphatic or alicyclic hydrocarbon (b.pt. 60-100deg.C; 10-30
 vol%); the remaining aq. soln. is then distilled to remove ester and
 hydrocarbon, then extracted with a water-immiscible 4-5C alkanol; the
 alcoholic extract is washed with water (several portions) and then
 evaporated or mixed with water and/or EtOH and evaporated to obtain the
 concentrate.
 USE - The prods. are therapeutics for periphery and cerebral artery
 disorders.
 0/0

ABEQ US 5389370 A UPAB: 19950328

Extract from **Ginkgo biloba** leaves comprises 40-60% **flavone** glycosides, 5.5-8% **ginkgolides** (A,B,C and D or mixts.) and 0.5-7% **bilobalide** and 0-10% proanthrocyanidins, with upto 10 ppm alkylphenols.

Prepn. comprises extn. of fresh or dried leaves with aq. acetone or aq. 1-3C alkanol or anhydrous methanol at 40-100 deg.C, reducing solvent content to 10% to form conc. aq. soln. which is diluted to a solid content of 15-20% wt. at 25 deg.C to form a ppte. of lipophilic matter which is **filtered** off. The remaining aq. soln. is multi-step extracted with formic or acetic acid esters at 120 deg.C. The solvent is distilled off and residual soln. extd. with 4-5C alkanol at room temp. The alkanol phases are water-washed and conc. and solvent removed by azeotropic distn. The residue is diluted with 40% aq. ethanol and opt. treated with activated C and **ginkgolides** crystallised and purified by column chromatography e.g. on OHPr-dextran gel. The dilute residue may also be further extracted with aliphatic or cycloaliphatic hydrocarbon.

USE - Used for treating peripheral and cerebral circulatory disturbance.

Dwg.0/0

ABEQ EP 436129 B UPAB: 19950524

Extract from the leaves of **Ginkgo biloba** with a content of 40-60%, preferably 45-55% **flavone**, glycosides, 5.5-8.0% in particular 7.0% **ginkgolides** A, B, C and J, 5.0-7.0% in particular 6.0% **bilobalide**, less than 10% proanthrocyanidins and a maximum of 10 ppm, preferably less than 1 ppm, alkylphenol compounds.

Dwg.0/0

L83 ANSWER 38 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1991-172348 [24] WPIX

DNC C1991-074468

TI Extracts from **Ginkgo biloba** leaves - with high content of flavone glycoside(s) and **ginkgolide(s)** but with low alkyl phenol(s) content.

DC B04

IN SCHWABE, K P; SCHWABE, K

PA (SCHW-N) **SCHWABE W & CO GMBH**; (SCHW-N) **SCHWABE GMBH & CO WILLMAR**

CYC 19

PI DE 3940092 A 19910606 (199124)*

EP 431536 A 19910612 (199124)

R: AT BE CH DE ES FR GB GR IT LI LU NL SE

CA 2031386 A 19910605 (199133)

DE 3940092 C 19910919 (199138)

JP 03279332 A 19911210 (199204)

ES 2024399 A 19920301 (199214)

US 5322688 A 19940621 (199424) 5p A61K035-78 <--

JP 07025687 B2 19950322 (199516) 5p A61K035-78 <--

EP 431536 B1 19950719 (199533) EN 7p A61K035-78 <--

R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69021019 E 19950824 (199539) A61K035-78 <--

ES 2024399 T3 19950916 (199543) A61K035-78 <--

BR 1100103 A3 19970819 (199739) A61K035-78 <--

KR 185575 B1 19990501 (200052) A61K035-78 <--

ADT DE 3940092 A DE 1989-3940092 19891204; EP 431536 A EP 1990-123142 19901203; JP 03279332 A JP 1990-400221 19901203; US 5322688 A Cont of US 1990-624177 19901204, US 1992-899016 19920615; JP 07025687 B2 JP 1990-400221 19901203; EP 431536 B1 EP 1990-123142 19901203; DE 69021019 E DE 1990-621019 19901203, EP 1990-123142 19901203; ES 2024399 T3 EP 1990-123142 19901203; BR 1100103 A3 BR 1996-1100103 19961219; KR 185575 B1 KR 1990-19826 19901204

FDT JP 07025687 B2 Based on JP 03279332; DE 69021019 E Based on EP 431536; ES
2024399 T3 Based on EP 431536
PRAI DE 1989-3940092 19891204
REP EP 86315; 9.Jnl.Ref; EP 436129
IC **A61K035-78**

ICM **A61K035-78**
ICS **A61K031-70**

AB DE 3940092 A UPAB: 19930928

Novel extracts from the **leaves** of **Ginkgo biloba** are practically free from alkyl phenols, have a high content of flavone glycosides and contain most of the **ginkgolides** and **bilobalide** originally present in the **leaves**.

Pref. the extracts contain 20-30 (especially 22-26) weight% flavone glycosids,

2.5-4.6 weight% total **ginkgolides** A, B, C and J, 2.0-4.0 weight% **bilobalide**, less than 10 ppm (especially less than 1 ppm) alkyl phenols and less than 10 weight% proanthocyanidine.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes and thus the associated risks to the environment and the presence of residues in the pharmaceutical are avoided. Removal of tannin-like substances (proanthocyanidine) achieved without the need to use lead cpds, thus reducing health risks to the work force and reducing costs.

0/0

FS CPI

FA AB; DCN

MC CPI: **B04-A07E**; **B04-A07F2**; B12-F02; B12-H02

ABEQ DE 3940092 C UPAB: 19930928

The extract contains the following:- (a) 20-30 (22-26) wt.% flavone glycoside; (b) 2.5-4.5 wt.% **ginkgolides** A,B,C and J; (c) 2.0-4.0 wt.% **bilobalide**; (d) less than 10 ppm (pref. less than 1 ppm) alkylphenol cpds.; and (e) less than 10 wt.% proanthocyanidines.

The extract is prepd. by extracting the **leaves** with water/acetone mixt., a water/1-3C alkanol mixt. or with anhydrous methanol. The organic solvents are removed until less than 10% remain. In the last distillation stage, water may be added. The resulting aq. soln. is thinned with water to give a solids content of 5-25 wt.%, cooled to below 25 deg.C and left to stand until a ppt. develops. The supernatant aqs. soln. is treated with (NH₄)₂SO₄, followed by one or more extns. with methylethyl ketone or a mixt. of methylethyl ketone and acetone. The resulting extract is concentrated and thinned with water to give a solids content of 5-20%. This is followed by multistage extn. with butanol or pentanol. The non-aq. phase is concentrated to give a solids content of 50-70%. Enough water and ethanol is added to produce a mixt. contg. 5-20 dry wt.% extract and 20-60 wt.% aq. ethanol. This is followed by extn. with an aliphatic or cycloaliphatic solvent with a b.pt. of 60-100 deg.C and finally by concn. of the aq. phase at 60-80 deg.C under reduced pressure. A dry extract is obtd. with a water content of below 5%.

USE/ADVANTAGE - For the treatment of peripheral and cerebral arterial circulation disorders. The extract stimulates circulation, reduces ischaemia, inhibits thrombocyte aggregation and acts as a 'radical catcher'. The extract is prepd. without using environmentally damaging chlorinated solvents or lead cpds. which pose a danger to health. It contains almost no alkylphenol cpds. and is therefore unlikely to produce allergic reactions.

ABEQ US 5322688 A UPAB: 19940803

Prepn. of an enhanced extract of **Ginkgo biloba** free of alkylphenol cpds. and with high flavone glycoside content comprises extraction with an aq. acetone or aq. 1-3C alkanol and anhydrous methanol,

removal of solvent by distn. at reduced pressure, dilution of the resulting aq. soln. to solid content 5-25 % wt., cooling to ppt. and remove water-insol. lipophilic components, treatment with 10-30 % (NH₄)₂SO₄; then extraction with Me Et ketone opt. mixt. with acetone, extraction of extract with butanol or pentanol, dilution of extract with water to form aq./alcohol soln.; extraction with aliphatic or cycloaliphatic solvent of B-Pt. 60-100 deg.C, to further remove alkylphenols and concn. aq. extract under reduced pressure and drying at 60-80 deg.C to water content below 5% wt.

USE - Prod. has 20-30 % wt. flavone glycosides, 2.5-4.5 % wt. **ginkgolides** A,B,C and J, 2.0-4.0 % wt. bilobalide and below 10 ppm. alkylphenols and below 10 % wt. proanthocyanidins, and is used for pharmaceuticals for treating peripheral and cerebral arterial circulatory disorders.

Dwg.0/0

ABEQ EP 431536 B UPAB: 19950824

Method of preparation of an extract from **Ginkgo biloba** leaves, the extract containing 20 to 30 weight percent, in particular 22 to 26 weight percent, favone glycosides, 2.5 to 4.5 weight percent of **ginkgolides** A, B, C and J (in total), 2.0 to 4.0 weight percent **bilobalide**, less than 10 ppm, in particular less than 1 ppm alkylphenol compounds and less than 10 weight percent proanthocyanidin and characterised in that (a) the fresh or dried green leaves of **Ginkgo biloba** are extracted at a temperature of approximately 40 to 100 deg.C with aqueous acetone, an aqueous alkanol of 1 to 3 C-atoms or anhydrous methanol, (b) most of the organic solvent is separated from the extract to a maximum content of 10 weight percent, whereby water can be added in the last steps of distillation, (c) the remaining concentrated aqueous solution is diluted with water to a solids content of 5 to 25 weight percent left to cool, while being stirred, to a temperature below 25 deg.C left to stand until a precipitate forms and the resultant precipitate consisting of the lipophilic components which do not dissolve well in water is removed.

Dwg.0/0

L83 ANSWER 39 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1991-172347 [24] WPIX

DNC C1991-074467

TI Extracts from **Ginkgo biloba** leaves - with high content of flavone glycoside(s) and **ginkgolide(s)** and **bilobalide** but with low alkyl phenol(s) content.

DC A96 B04

IN SCHWABE, K P

PA (SCHW-N) **SCHWABE W GMBH**; (SCHW-N) **SCHWABE W & CO GMBH**

CYC 18

PI DE 3940091 A 19910606 (199124)*

EP 431535 A 19910612 (199124)

R: AT BE CH DE ES FR GB GR IT LI LU NL SE

CA 2031385 A 19910605 (199133)

DE 3940091 C 19910919 (199138)

JP 03279331 A 19911210 (199204)

ES 2024400 A 19920301 (199214)

EP 431535 B1 19940302 (199409) EN 12p A61K035-78 <--

R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69007035 E 19940407 (199415) A61K035-78 <--

ES 2024400 T3 19940416 (199419) A61K035-78 <--

US 5399348 A 19950321 (199517) 5p A61K035-78 <--

JP 07076176 B2 19950816 (199537) 5p A61K035-78 <--

KR 154977 B1 19981116 (200029) A61K035-78 <--

CA 2031385 C 20010918 (200157) EN A61K035-78 <--

ADT DE 3940091 A DE 1989-3940091 19891204; EP 431535 A EP 1990-123141 19901203; JP 03279331 A JP 1990-400220 19901203; EP 431535 B1 EP 1990-123141 19901203; DE 69007035 E DE 1990-607035 19901203, EP

1990-123141 19901203; ES 2024400 T3 EP 1990-123141 19901203; US 5399348 A
 Cont of US 1990-625729 19901204, US 1992-905167 19920624; JP 07076176 B2
 JP 1990-400220 19901203; KR 154977 B1 KR 1990-19825 19901204; CA 2031385 C
 CA 1990-2031385 19901203

FDT DE 69007035 E Based on EP 431535; ES 2024400 T3 Based on EP 431535; JP
 07076176 B2 Based on JP 03279331

PRAI DE 1989-3940091 19891204

REP EP 86315

IC **A61K035-78**

ICM **A61K035-78**

ICS **A61K031-70**

AB DE 3940091 A UPAB: 19930928

Novel extracts from the leaves of **Ginkgo**

biloba are practically free from alkyl phenols, have a high content of flavone glycosides and contain most of the **ginkgolides** and **bilobalide** originally present in the leaves.

Pref. the extracts contain 20-30 (especially 22-26) weight% flavone glycosides, 2.5-4.5 weight% total **ginkgolides** A, B, C and J, 2.0-4.0 weight% **bilobalide**, less than 10 ppm (especially less than 1 ppm) alkyl phenols and less than 10 weight% proanthocyanidine.

USE/ADVANTAGE - The extracts promote circulation, inhibit ischaemic damage and aggregation of radical acceptors and thrombocytes. The extracts are especially useful in the therapy of peripheral and cerebral arterial disorders of the circulation. Removal of the alkyl phenols (which are associated with allergies) is achieved without the need to use the chlorinated hydrocarbons necessary in previous processes, and thus the associated risks to the environment and potential residues in the phenol are avoided.

0/0

FS CPI

FA AB; DCN

MC CPI: A12-V01; **B04-A07F2**; B12-E01

ABEQ DE 3940091 C UPAB: 19930928

The extract contains the following: (a) 20-30 (22-26) wt.% flavone glycoside, (b) 2.5-4.5 wt.% **ginkgolides** A,B,C and J. (c) 2.0-4.0 wt.% **bilobalide**. (d) less than 10 ppm (pref. less than 1 ppm) alkylphenol cpds.; and (e) less than 10 wt.% proanthocyanidines.

The extract is prepd. by extracting the **ginkgo biloba** leaves with a water/acetone mixt., a water/1-3C alkanol mixt. or anhydrous methanol. The organic solvents are removed until less than 10% remain. In the last distillation stage, water may be added. The resulting aq. soln. is thinned with water to give a solids content of 5-25 wt.%, cooled to below 25 deg.C and left to stand. A ppte. develops. The supernatant aq. soln. is treated with (NH₄)₂SO₄ followed by one or more extns. with methylethyl ketone or a mixt. of methylethyl ketone and acetone. The resulting extract is conc. and thinned with a 50/50 water/ethanol mixt. (by wt.) to give a soln. contg. 10 wt.% solids. The soln. is treated with a lead cpd. or an insoluble polyamide, and extracted with an aliphatic or cycloaliphatic solvent with a b.pt. 60-100 deg.C. This is followed by concn., further treatment with (NH₄)₂SO₄ and extn. with methylethyl ketone and ethanol. The organic phase is concentrated to give a solid phase content of 50-70 wt.%, and the conc. is dried until the water content is below 5%.

USE/ADVANTAGE - For the treatment of peripheral and cerebral arterial circulation disorders. The extract stimulates circulation, reduces ischaemia, inhibits thrombocyte aggregation and acts as a 'radical catcher'. The extract is prepd. without using environmentally damaging solvents. It contains almost no alkylphenol cpds. and is therefore unlikely to produce allergic reactions.

ABEQ EP 431535 B UPAB: 19940418

Extract from the leaves of **Ginkgo biloba**, containing - 20-30 weight percent flavon glycosides, - 2.5-4.5 weight percent of **ginkgolides** A, B, C and J (in total), - 2.0-4.0

weight percent **bilobalide**, - less than 10 ppm alkylphenol compounds and - less than 10 weight percent proanthocyanidins.
Dwg.0/0

ABEQ US 5399348 A UPAB: 19950508

Extract from **Ginkgo biloba leaves** contains flavone glycosides (20-30 wt%); **ginkgolides**-A, -B, -C and -J (2.5-4.5 wt%); **bilobalide** (2.0-4.0 wt%); proanthocyanidines (less than 10 wt%); and only traces (less than 10 ppm) of alkylphenol derivs. Pharmaceutical compsn. comprises this extract as the active component, dispersed with the usual carriers and opt. additives.

USE - The prods. are therapeutics for peripheral and cerebral arterial circulatory disorders.

ADVANTAGE - The prods. have radical scavenging properties, stimulate blood circulation, prevent ischemic disorders and inhibit blood platelet aggregation.

Dwg.0/0

L83 ANSWER 40 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1990-377677 [51] WPIX

DNC C1990-164505

TI Isolation of **ginkgolides** from **ginkgo leaves**

- providing prod. useful in treating e.g. asthma, dementia and cardiac disorders.

DC B03

IN KWAK, W J; OH, K B; PARK, H K

PA (SUNK-N) SUNKYONG IND LTD; (SUNK-N) SUNKYONG INDS LTD; (SUNK-N) SUNKYONG IND LTD; (SUNK-N) SUN KYONG IND LTD

CYC 6

PI EP 402925 A 19901219 (199051)*

R: BE DE FR

JP 03024084 A 19910201 (199111)

US 5089636 A 19920218 (199210)

EP 402925 A3 19920102 (199320)

KR 9402795 B1 19940402 (199602)

A61K035-78 <--

JP 2511558 B2 19960626 (199630)

4p C07D493-22

EP 402925 B1 19970924 (199743)

EN 7p C07D493-22

R: BE DE FR

DE 69031481 E 19971030 (199749)

C07D493-22

ADT EP 402925 A EP 1990-111246 19900614; JP 03024084 A JP 1990-155552

19900615; US 5089636 A US 1990-539424 19900615; KR 9402795 B1 KR 1989-8340

19890616; JP 2511558 B2 JP 1990-155552 19900615; EP 402925 B1 EP

1990-111246 19900614; DE 69031481 E DE 1990-631481 19900614, EP

1990-111246 19900614

FDT JP 2511558 B2 Previous Publ. JP 03024084; DE 69031481 E Based on EP 402925

PRAI KR 1989-8340 19890616

REP NoSR.Pub; 4.Jnl.Ref; DE 2117429; EP 86315; 6.Jnl.Ref

IC C07D307-00; C07D493-22

ICM C07D493-22

ICS C07D307-00

ICA A61K035-78

ICI C07D307:00, C07D493-

AB EP 402925 A UPAB: 19971113

A method of isolating **ginkgolides** from **leaves** of the

Ginkgo tree comprises; a) adjusting the pH of an aqueous solution of an extract of **Ginkgo** tree **leaves** to 1-9 by adding

alkaline aqueous solution, b) extracting the aqueous solution obtd. in (a)

with lower

acetates, lower ketones or benzenes, dehydrating and drying the organic

layer to obtain a powder, c) adjusting the pH of the aqueous layer obtd. in

(b) to 1-3 by adding acidic aqueous solution, extracting the solution with

lower

ethers or CHCl₃, dehydrating and the extract, d) dissolving the dry

powder obtd. in (b) and residue obtd. in (c) in a lower alcohol, e) adding

an aqueous solution of lead acetate to the solution obtd. in (d), removing the ppte. and concentrating the **filtrate** to obtain a mixture powder of **ginkgolides**.

USE - Leaves of the **Ginkgo** tree are known to contain physio-active substances, **ginkgolides**, useful in treating e.g. asthma, dementia senilis, cardiac disorders and a broad range of circulatory system diseases. @ (6pp Dwg.No.0/6) idu

FS CPI

FA AB; DCN

MC CPI: B04-A07D5; **B04-A07F2**; **B11-B**; B12-C10; B12-D02; B12-D02B; B12-D03; B12-D07; B12-D09; B12-D10; B12-F01B; B12-F07; B12-G04A; B12-K02

ABEQ EP 402925 A UPAB: 19930928

A method of isolating **ginkgolides** from leaves of the **Ginkgo** tree comprises; a) adjusting the pH of an aq. soln. of an extract of **Ginkgo** tree leaves to 1-9 by adding alkaline aq. soln., b) extracting the aq. soln. obtd. in (a) with lower acetates, lower ketones or benzenes, dehydrating and drying the organic layer to obtain a powder, c) adjusting the pH of the aq. layer obtd. in (b) to 1-3 by adding acidic aq. soln., extracting the soln. with lower ethers or CHCl_3 , dehydrating and the extract, d) dissolving the dry powder obtd. in (b) and residue obtd. in (c) in a lower alcohol, e) adding an aq. soln. of lead acetate to the soln. obtd. in (d), removing the ppte. and concentrating the **filtrate** to obtain a mixt. powder of **ginkgolides**.

USE - Leaves of the **Ginkgo** tree are known to contain physio-active substances, **ginkgolides**, useful in treating e.g. asthma, dementia senilis, cardiac disorders and a broad range of circulatory system diseases.
0/6

ABEQ US 5089636 A UPAB: 19930928

A new sepn. of **ginkgolides** from leaves of **Ginkgo** tree comprises (a) adjusting pH of aq. soln. of leaf ext. to 7 by addn. aq. alkali, (b) extn. aq. soln. with lower alkyl acetate, ketone, benzene or alkylbenzene, sepn. of phases and obt. powder from organic phase, (c) adjust pH of aq. phase to 1-3.5 by addn. acid and ext. with water-insol. organic solvent and drying the ext. obt. (d) dissolve the powders from (b) and (c) in lower alkyl alcohol and add aq. PbAc_4 to ppte. **ginkgolides** which are sepd. by **filtration**.

Pref. extn. is at 50-100 deg.C. for 5-6 hrs. Purificn. may be passing through column of activated C or silicas gel in solvent and recrystallisation from aq. alcohol/acetone.

USE - The **ginkgolides** are used to treat PAF-mediated diseases (compete with PAF) including asthma, bronchitis, dermatitis, allergy, cardiac and rheumatoid disorders.

ABEQ EP 402925 B UPAB: 19971030

A method of isolating **ginkgolides** from the leaves of the **Ginkgo** tree which is characterised by a series of steps as follows:

- a) to adjust the pH of an aqueous solution of an extract of the leaves of the **Ginkgo** tree to the range of 1 to 9 by adding an alkaline aqueous solution,
- b) to extract the aqueous solution treated as above with lower acetates, lower ketones or benzenes, separate the solution into a layer of aqueous solution and a layer of organic solvent, dehydrate and dry the layer of organic solvent, and obtain a powder,
- c) to adjust the pH of the layer of aqueous solution separated in the afore-said process b to the range of 1 to 3 by adding an acidic aqueous solution, extract the layer of aqueous solution treated as above with lower ethers, chloroform or dichloromethane, dehydrate and dry the obtained extract,

d) to dissolve the dry powder obtained the afore-said process b and the residue obtained in the afore-said process c in a lower alcohol,

e) to add an aqueous solution of lead acetate to the solution obtained in the afore-said process d, remove the precipitate, concentrate the **filtrate**, and obtain a mixture powder of **ginkgolides**

f) to purify the obtained mixture powder of **ginkgolides**

I) either by passing the afore-said mixture powder through an adsorption column of activated charcoal and silicagel using a mixture solvent of lower ketones and lower alcohols and putting the obtained residue through separation recrystallisation using anhydrous alcohol and an aqueous solution of acetone,

II) or by dissolving the afore-said mixture powder in lower ketones or lower alcohols, adding distilled water to the obtained solution, centrifuging the solution thus treated and then putting the obtained residue through separation recrystallisation using anhydrous alcohol and an aqueous solution of acetone.

L83 ANSWER 41 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1990-079062 [11] WPIX

DNC C1990-034645

TI Chocolate production - where **ginkgo** extract is added.

DC B04 D13

PA (DAIL) DAICEL CHEM IND LTD

CYC 1

PI JP 02031646 A 19900201 (199011)* 3p

ADT JP 02031646 A JP 1988-182033 19880721

PRAI JP 1988-182033 19880721

IC A23G001-00; **A61K035-78**

AB JP 02031646 A UPAB: 19930928

Chocolate contains **ginkgo** extract as an essential component.

The **ginkgo** extract pref. contains either one or two terpenes e.g. **ginkgolide**, **bilobalide**, **flavonoids** e.g. quercetins, kaempferols.

USE/ADVANTAGE - The chocolate may be prepared by using a common chocolate producing plant without alteration. The prod. is equivalent to conventional chocolate in appearance, smoothness, flavour and palate.

In an example, preparation of **ginkgo** extract, dry leaves of **ginkgo** (1 g) were ground finely, and immersed in ethanol (20 ml). After refluxing at 60 deg.C for 1 hr., leaves were removed by filtration, solvent of the filtrate was distilled away, and 230 mg of the extract was obtd.. The extract was suspended in 20% etOH aqueous solution, insol. matters were removed, then solvent was distilled away. 120 mg of extract was obtd..

O/O

FS CPI

FA AB

MC CPI: **B04-A07F2**; B06-A01; D03-E07

L83 ANSWER 42 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1989-250642 [35] WPIX

DNC C1989-111651

TI Extraction of **Ginkgo biloba** leaves - using aqueous ketonic solvent to give prod. low in proantho cyanidine(s) used to treat peripheral and cerebral circulatory disorders.

DC B04

IN AYROLES, G; CADIOU, M; ROSSARD, R M

PA (FABR) FABRE P INDUSTRIE; (FABR) FABRE P INDUSTRIE

CYC 15

PI EP 330567 A 19890830 (198935)* EN 5p

R: AT BE CH DE ES GR IT LI LU NL SE

FR 2627387 A 19890825 (198941)

JP 01258626 A 19891016 (198947)

US 4981688 A 19910101 (199104) 4p
 EP 330567 B 19911023 (199143)
 R: AT BE CH DE ES GB GR IT LI LU NL SE
 DE 68900345 E 19911128 (199149)
 JP 2717178 B2 19980218 (199812) 4p A61K035-78 <--
 ADT EP 330567 A EP 1989-400495 19890222; FR 2627387 A FR 1988-2227 19880224;
 JP 01258626 A JP 1989-45027 19890322; US 4981688 A US 1989-313372
 19890221; JP 2717178 B2 JP 1989-45027 19890223
 FDT JP 2717178 B2 Previous Publ. JP 01258626
 PRAI FR 1988-2227 19880224
 REP 2:Jnl.Ref; EP 86315; FR 2007352; FR 2132761; JP 58210034; JP 62033118; EP
 237066
 IC A61K035-78; B01D011-02; C07G017-00
 ICM A61K035-78
 ICS B01D011-02; C07G017-00
 AB EP 330567 A UPAB: 19940517
 An extract of **Ginkgo biloba leaves** is obtd.
 as follows: 1) the crushed leaves are extrd. with an aqueous
 ketonic solvent 2) the extract is concnd. to ppte **biflavonoids**
 and hydrophobic material 3) the aqueous concentrate is **filtered** 4)
 this is basified to ppte proanthocyanidines, these being eliminated by
filtration 5) the **filtrate** is acidified 6) the
filtrate undergoes a liquid -liquid extraction using a 4-6C ketone in
 the presence of ammonium sulphate, and 7) the ketonic phase is dried to
leave the desired extract.
 USE/ADVANTAGE - The extract is used to treat peripheral and cerebral
 circulatory disorders. The process gives a purer material than other extraction
 processes, is easier to carry out, and is more economical.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: B04-A07F2; B12-C10; B12-E01; B12-G04A
 ABEQ EP 330567 B UPAB: 19930923
 An extract of **Ginkgo biloba leaves** is obtd.
 as follows: 1) the crushed leaves are extra. with an aq.
 ketonic solvent 2) the extract is concnd. to ppte **bioflavonoids**
 and hydrophobic material 3) the aq. concentrate is **filtered** 4)
 this is basified to ppte proanthocyanidines, these being eliminated by
filtration 5) the **filtrate** is acidified 6) the
filtrate undergoes a liq. -liq. extraction using a 4-6C ketone in
 the presence of ammonium sulphate, and 7) the ketonic phase is dried to
leave the desired extract.
 USE/ADVANTAGE - The extract is used to treat peripheral and cerebral
 circulatory disorders. The process gives a purer material than other extn.
 processes, is easier to carry out, and is more economical.
 0/0
 ABEQ US 4981688 A UPAB: 19930923
 Obtaining extract from **Ginkgo biloba leaves**
 comprises: a) grinding the leaves; b) extn. of the ground
 leaves prepn. using aq. ketone solvent; c) concn. of extn. liquors
 in order to ppte **biflavonoid** 1 hydrophobic substances; d)
Filtration of the aq. concn.; e) alkinisation of **filtrate**
 to a pH of at least 8 by addn. of alkali (ne earth) metal hydroxides,
 amine gas or amine to ppte. the proanthocyanidins; f) removal of insol.
 fraction; g) acidification of **filtrate**; h) liq.-liq. extn. of
filtrate with 4-8C ketone in ammonium sulphate which is obtd. by
 phasing to dryness.
 USE/ADVANTAGE - For oral or injection admin. for circulatory
 disorders.

L83 ANSWER 43 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1985-116906 [20] WPIX
 DNC C1985-050580

TI Medicaments containing **ginkgo biloba** di lactone
bilobalide - for treatment of nervous diseases, pref.
demyelinising neuropathy, encephalopathy and myelopathy and brain oedema.

DC B02

IN CHATTERJEE, S S; GABARD, B L; JAGGY, H E W

PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**; (SCHW-N) **SCHWABE GMBH & CO WILLMAR**; (SCHW-N) **SCHWABE GMBH & CO WILLMAR**

CYC 15

PI DE 3338995 A 19850509 (198520)* 20p

EP 143977 A 19850612 (198524) DE

R: AT BE CH DE FR GB IT LI LU NL

JP 60109522 A 19850615 (198530)

ZA 8408369 A 19850429 (198532)

US 4571407 A 19860218 (198610)

JP 62041688 B 19870904 (198739)

CA 1238280 A 19880621 (198832)

US 4892883 A 19900109 (199010)

DE 3338995 C 19900322 (199012)

EP 143977 B1 19950315 (199515) DE 13p A61K031-365

R: AT BE CH DE FR GB IT LI LU NL

DE 3486378 G 19950420 (199521) A61K031-365

IE 66527 B 19960124 (199613) A61K031-365

ADT DE 3338995 A DE 1983-3338995 19831027; EP 143977 A EP 1984-112902
19841025; JP 60109522 A JP 1984-225657 19841026; ZA 8408369 A ZA 1984-8369
19841026; US 4571407 A US 1984-662598 19841019; US 4892883 A US
1988-256233 19881011; EP 143977 B1 EP 1984-112902 19841025; DE 3486378 G
DE 1984-3486378 19841025; EP 1984-112902 19841025; IE 66527 B IE 1984-2765
19841026

FDT DE 3486378 G Based on EP 143977

PRAI DE 1983-3338995 19831027

REP 6.Jnl.Ref; A3...8719; No-SR.Pub; 2.Jnl.Ref

IC A61K009-00; A61K031-36; **A61K035-78**; C07D493-14

ICM A61K031-365

ICS A61K009-00; A61K031-36; **A61K035-78**; C07D493-14

AB DE 3338995 A UPAB: 19950518

Medicaments containing **bilobalide** (I; a lactone from the
leaves of Ginkgobiloba) for the treatment of nervous
diseases.

Use of **bilobalide** in the treatment of nervous diseases.
Bisobalide can be isolated from **Ginkgobiloba leaves** by
e.g. the procedure of Leibig's Ann. Chemical 724 (1969), 214-216.

Suitable formulations include ointments, solutions, dragees, tablets,
capsules and injection or infusion solns. Daily dosages are generally 5-40
mg orally, 0.5-5 mg parenterally, or 5-100 mg percutaneously.

USE - Treatment of neurological disorders caused by or associated
with pathological changes in the myelin layer of the nerve fibres, especially
demyelinising neuropathies, encephalopathies and myelopathies and brain
oedemas.

0/2

Dwg.0/2

FS CPI

FA AB

MC CPI: B06-A03; B12-C10; B12-E01

ABEQ DE 3338995 C UPAB: 19930925

Medicaments contg. **bilobalide** (I; a lactone from the
leaves of Ginkgobiloba) for the treatment of nervous
diseases.

Use of **bilobalide** in the treatment of nervous diseases.
Bisobalide can be isolated from **Ginkgobiloba leaves** by
e.g. the procedure of Leibig's Ann. Chem. 724 (1969), 214-216.

Suitable formulations include ointments, solutions, dragees, tablets,
capsules and injection or infusion solns. Daily dosages are generally 5-40
mg orally, 0.5-5 mg parenterally, or 5-100 mg percutaneously.

USE - Treatment of neurological disorders caused by or associated with pathological changes in the myelin layer of the nerve fibres, esp. demyelinating neuropathies, encephalopathies and myelopathies and brain oedemas.

0/2

ABEQ US 4571407 A UPAB: 19930925

Treatment of neuropathic disorders comprises administering **bilobalid** (I). Pref. amt. of (I) is 0.5-100 (5-40)mg/kg patient body wt.

USE/ADVANTAGE - (I) alleviates paraesthesia, paresis, abnormal reflexes, muscular atrophy, muscle spasms, tremor, disturbances of superficial and deep sensibility, headaches and pains in the limbs, disturbances of speech, vision and hearing, vertigo disturbances of consciousness, lack of coordination and concn., memory impairment and disorientation. It also alleviates disturbances of cerebral and peripheral blood flow. May be administered orally or parenterally, intramuscularly or intravenously. The use of (I) to treat demyelinating neuropathy, encephalopathy, myelopathy and cerebral oedema is claimed.

ABEQ US 4892883 A UPAB: 19930925

Pharmaceutical compns. for treating neuropathic disorders comprise a combination of flavone glycosides and **bilobalide** in a pharmaceutical carrier. The compsn. is pref. a whole extract of the leaves of **Ginkgo biloba**.

The compns. pref. contain 0.5-40, esp. 3-20% of **bilobalide** and 99.5-60, esp. 97-80% of residual monoextract of **Ginkgo biloba**.

USE - For treating demyelinating neuropathies, encephalopathies and myelopathies or cerebral oedemas.

ABEQ EP 143977 B UPAB: 19950425

Bilobalid for use as substance counteracting nervous diseases.
Dwg.0/2

L83 ANSWER 44 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1972-67548T [42] WPIX

TI Vasoactive substances produced by extracting from - **ginkgo biloba leaves**.

DC A23 A96 B04

PA (SCHW-N) **FA SCHWABE DR W**; (SCHU-I) **SCHUWABE W**; (SCHW-I) **SCHWABE**; (SCH-N) **SCHWABE W**

CYC 5

PI BE 781802 A (197242)*

DE 2117429 A (197243)

NL 7204696 A (197244)

FR 2132761 A (197308)

JP 49027323 B 19740717 (197432)

DE 2117429 B 19810527 (198123)

JP 47035107 A 19721124 (198347)

NL 175383 B 19840601 (198425)

PRAI DE 1971-2117429 19710408

IC **A61K035-78**

AB BE 781802 A UPAB: 19930831

Process comprises (1) extraction of the dried or fresh green leaves with an aqueous ketone or lower alkanol at 40-100 degrees (2) extraction of this

extract with a water-immiscible, lipophilic solvent at 15-50 degrees (3) treating the aqueous extract with (NH₄)₂SO₄ (I) and extracting with MEK (4) evaporating the

MEK extract, diluting with an opt. aqueous lower alkanol and treating this solution

either (5) with a Pb cpd., pref. freshly prepared Pb hydroxide, discarding the ppte. concentrating the alcohol solution addition of (I) and extraction with MEK

to give an alcohol-MEK phase, addition of (I), removal of water and concentration of

the alcohol-MEK after drying or (6) with a powdered high mol. weight polyamide, pref. Nylon 6, filtn. and concentrate (7) dissolving the residue from (5) or (6) in EtOH, filtn. and concentration The product is used for treating impaired peripheral circulation, intermittent claudication and vascular disorders, and can be used by injection or perfusion.

FS CPI

FA AB

MC CPI: A05-F01E; A12-V01; B04-A07F; B12-E01

L83 ANSWER 45 OF 45 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1970-19094R [12] WPIX

TI Vaso active substances obtained from **gingko biloba - leaves.**

DC B04 C03

PA (SCHW-N) **SCHWABE GMBH & CO WILLMAR**

CYC 3

PI FR 2007352 A (197012)*

JP 46028091 B (197132)

DE 1767098 B (197223)

PRAI DE 1968-1767098 19680329

IC A61K027-00

AB FR 2007352 A UPAB: 19930831

Vaso-active substances obtained from **gingko biloba leaves.** F3A. Used for treating peripheral and cerebral arterial circulation disorders in the aged and are extracted from fresh or dried green leaves of **Gingko biloba** L. syn. *Salisburia adiantifolia* Smith with an organic solvent (lower alcohol or ketone) miscible with water and containing water at pref. 60-80 degrees C. This extract is itself extracted with a lipophilic solvent (lower halogenated aliphatic hydrocarbon) immiscible with water at 15-50 degrees C opt. followed by evaporation of the aqueous organic phase under reduced pressure. The extract contains quercetin, isoquercitine, luteoline and kamferol-3-rhamnoside glycosides and sitosterine and as the extractions take place under very moderate conditions, the active substances are obtained in their original form. The aqueous organic phase extract can be used without purification for oral administration but not for injections, when it must be treated with (NH₄)₂SO₄, extracted with organic solvent partially soluble in H₂O / (C₂H₅)₂CO or C₂H₅COCH₃/, evaporated, extracted with low aliphatic alcohol (pref. C₂H₅OH), residue dried under reduced pressure, powder dissolved in water, pH adjusted to 7.5 and this solution diluted 9 times with 4% solution of sorbitol in H₂O.

FS CPI

FA AB

MC CPI: B04-A07F; B12-E01; C04-A07F; C12-E01

=> d his

(FILE 'HOME' ENTERED AT 11:30:30 ON 22 APR 2004)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:30:38 ON 22 APR 2004

L1 E GINKGOLIDE/CN
4 S E4,E6-E8
E GINKGOLIDE B/CN
E E3,E10
E GINKGOLIDE B/CN
L2 2 S E3,E10
L3 5 S E13,E14,E16-E18
E GINKGOLIC ACID/CN
L4 2 S E3-E5
E BILOBALIDE/CN

L5 1 S E3

FILE 'HCAPLUS' ENTERED AT 11:32:52 ON 22 APR 2004

L6 1851 S E4
E GINKGO/CT
E E3+ALL

L7 2267 S E5+NT

L8 1 S E7/BI

L9 2273 S E8, E9/BI
E E4+ALL

L10 2269 S E4+NT

L11 2299 S (GINKGO OR GINGKO) () BILOBA?

L12 2669 S L6-L11

L13 6 S L12 AND (ULTRAFILT? OR ULTRA(L) FILTR?)

L14 4 S L13 NOT (ELECTRON OR FOODS)/TI

L15 1 S (WO99-DE1812 OR DE98-19829516)/AP, PRN
E WILLMAR/PA, CS

L16 19 S E13-E34
E OSCHMANN R/AU

L17 25 S E3, E4
E OESCHMANN R/AU
E GRETHLEIN E/AU

L18 4 S E3-E5

L19 2 S L12 AND L16-L18

L20 5 S L14, L15, L19

L21 247 S L12 AND L1-L3

L22 339 S L12 AND (GINKGOLIDE OR GINGKOLIDE)

L23 66 S L12 AND (GINKGOLIC OR GINGKOLIC) () ACID

L24 398 S L21-L23

L25 138 S L12 AND ?TERPEN? (L) ?LACTONE?

L26 178 S L12 AND ?FLAVON? (L) ?GLYCOSIDE?

L27 554 S L24-L26
E FILTRATION/CT
E E3+ALL

L28 22283 S E3, E2+NT
E E12+ALL

L29 66577 S E2+NT
E E1+ALL

L30 83 S L12 AND L28, L29

L31 17 S L30 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)
SEL DN AN 1 4 11 14 16 17

L32 11 S L31 NOT E1-E18

L33 15 S L20, L32

L34 228 S L27 AND (PY<=1998 OR PRY<=1998 OR AY<=1998)

L35 7 S L34 AND (?FILTER? OR ?FILTR?)
SEL DN AN 6 7

L36 5 S L35 NOT E19-E24

L37 18 S L33, L36

L38 18 S L37 AND L6-L37

L39 14 S L38 AND (LEAF OR LEAVE)

L40 4 S L38 NOT L39

L41 3 S L40 NOT COUMAROYL

L42 17 S L39, L41

L43 15 S L42 AND (?FLAVON? OR ?TERPEN? OR ?LACTONE?)

L44 2 S L42 NOT L43

L45 1 S L44 NOT ANTIOXIDANT

L46 16 S L43, L45

L47 0 S L12 AND COLD (L) ?PRECIPITAT?
E PRECIPITATION/CT

L48 23147 S E3, E5+NT

L49 18 S E25
E E3+ALL
E E2+ALL

L50 20084 S E2+NT
E PRECIPITATION, THERMAL/CT
E E3+ALL
L51 0 S L12 AND L48-L50

FILE 'HCAPLUS' ENTERED AT 11:56:39 ON 22 APR 2004

FILE 'WPIX' ENTERED AT 11:57:13 ON 22 APR 2004

L52 415 S L9/BIX OR L11/BIX
E GINKGO/BI, ABEX
L53 1446 S (GINKGO? OR GINGKO? OR GINKO? OR GINGO?)/BIX
L54 516 S BILOB?/BIX
L55 1489 S L52-L54
L56 1 S L55 AND (DE98-19829516 OR WO99-DE1812)/AP, PRN
E OSCHMANN R/AU
L57 16 S E3
E GRETHLEIN E/AU
L58 4 S E3
E WILLMAR/PA
L59 61 S E3-E11
E SCHWABE/PA
L60 317 S E3-E52
L61 13 S L55 AND L57-L60
L62 13 S L56, L61
L63 87 S L55 AND (N160? OR N161? OR N163?)/M0, M1, M2, M3, M4, M5, M6
L64 63 S L55 AND (B11-B OR C11-B OR E11-Q)/MC
L65 201 S L55 AND (B04-A10B OR C04-A10B OR B04-A07F2 OR C04-A07F2 OR B0
L66 806 S L55 AND (B04-A07 OR C04-A07 OR B04-A07E OR C04-A07E OR B04-A0
L67 891 S L63-L66
L68 2 S L67 AND (?ULTRAFILTR? OR ?ULTRAFILTER?)/BIX
L69 1 S L67 AND (?ULTRA?() (?FILTR? OR ?FILTER?))/BIX
L70 3 S L68, L69
L71 127 S L67 AND (?FILTER? OR ?FILTR?)/BIX
L72 30 S L71 AND (?LACTONE? OR ?FLAVON?)/BIX
L73 4 S L71 AND A61K031-365/IC, ICM, ICS
L74 12 S L71 AND (?BILOBAL? OR ?GINKGOLID? OR ?GINGKOLID?)/BIX
L75 27 S L62, L70, L73, L74
L76 18 S L72 NOT L75
L77 45 S L75, L76
L78 39 S L77 AND (LEAF OR LEAVE)/BIX
L79 6 S L77 NOT L78
L80 45 S L78, L79
L81 40 S L80 AND A61K035-78/IC, ICM, ICS
L82 5 S L80 NOT L81
L83 45 S L81, L82 AND L52-L82

FILE 'WPIX' ENTERED AT 12:21:29 ON 22 APR 2004

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